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OF THE

STATE OF WISCONSIN

BEING THE REPORTS OF THE VARIOUS

STATE OFFICERS, DEPARTMENTS AND INSTITUTIONS

For the Fiscal Term Ending June 30, 1914

VOLUME 4

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PUBLIC DOCUMENTS FOR 1913—1914

CONTENTS OF VOLUME I.

CONTENTS OF VOLUME II.

CONTENTS OF VOLUME III.

CONTENTS OF VOLUME IV.

CONTENTS OF VOLUME V.

CONTENTS OF VOLUME VI.

CONTENTS OF VOLUME VII.

CONTENTS OF VOLUME VIII.

CONTENTS OF VOLUME IX.

OPINIONS AND DECISIONS

OF THE

RAILROAD COMMISSION

STATE OF WISCONSIN

VOLUME XIII

NOVEMBER 4, 1913, *to* FEBRUARY 16, 1914.

COMPILED BY
LEWIS E. GETTLE
Secretary

MADISON, WISCONSIN
DEMOCRAT PRINTING COMPANY, STATE PRINTER
1914

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ERRATA.

Page 274: Citation at top of page should be "11 W. R. C. R. 338, 342" instead of "11 W. R. C. R. 388, 342".

Page 637: Citation for "In re Standards for Gas and Electric Service" should be 632 instead of 627.

TABLE OF CASES REPORTED

TABLE OF LAWS CITED

TABLE OF CASES CITED

LOCALITIES INDEX

OPINIONS AND DECISIONS

OF THE

Railroad Commission of Wisconsin

VILLAGE OF SHARON
vs.
UNITED HEAT, LIGHT AND POWER COMPANY.

Submitted July 28, 1913. Decided Nov. 4, 1913.

The petitioner alleges that the respondent charges it an excessive rate for pumping water into the village water system from the well which supplies the water; that the respondent has increased the cost of this service, contrary to the provisions of an agreement between the petitioner and the respondent; that the petitioner has to bear the cost of depreciation, upkeep, etc., in addition to the contract price; and that the petitioner is not receiving a just compensation for the use of its power house and equipment by the respondent. The petitioner owns a joint gas and water utility for which the respondent for some time past has pumped the water used. The reasonableness of the terms of the agreement under which the respondent undertook to perform this service, and is still performing it, is in question. Investigations were made of the operating conditions of both the water and gas departments, and of the revenues and expenses of the water department. The contract price of 30 cts. per thousand gallons pumped appears to be slightly higher than the cost to the respondent of performing the service but it is lower than the cost to the village was when the village did the pumping. The difference between the cost to the respondent and the contract price seems to be made up of savings arising from the lower cost of fuel, from improved efficiency of equipment and from other economies.

Held: The terms under which the respondent performs the service of pumping for the petitioner do not appear to be unreasonable. The evidence shows that the respondent has not increased the cost of pumping water, as alleged, and that the petitioner, under the agreement, should assume the burden of depreciation and upkeep of the equipment in question. It appears further that the respondent should not be required to pay a rental, in addition to operating the gas plant, for the portion of the station used for the respondent's electrical equipment. The petition is therefore dismissed.

The petition in the above entitled matter alleges that the respondent charges the village an excessive rate for pumping water; that the respondent has increased the cost to the village of pumping the water, contrary to the provisions of an agreement with the respondent; that the village with its own equipment can furnish service at less cost; that the village has to bear the cost of depreciation, upkeep, etc., in addition to the contract price; and that the village is not receiving a just compensation for the use of the power house, equipment and accessories.

A hearing was held July 28, 1913, at the office of the Commission in the city of Madison. *Leon C. LeBaron* appeared for the petitioner and *Geo. M. Cantwell* for the respondent.

It appears that the respondent company entered into an agreement with the village to pump all water used in the village water system from the well which supplies the water. This agreement, which contained the rate against which complaint is made, provided in substance as follows: (1) that the company should pump the water for the village into the mains and tank, for a compensation of 30 cts. per thousand gallons, meter measure; (2) that the company should have the right to use the boilers and pumping apparatus of the village during the life of the agreement, the village to keep the well and pumps in good repair at its own expense, and the company to keep the boilers in repair at its expense during the period; (3) that the company should have the use of the village pumping station during the period of the agreement, and of the boilers, pumping apparatus, and machinery installed up to the time of signing the agreement, without rent or any other payment whatever; and (4) that, in case the village was required to repair wells or pumping apparatus, the company should furnish labor and repairs for this work at actual cost.

It further appears that when the respondent company was given a franchise to operate an electric light system at Sharon it was understood that within two years of the date of the franchise grant there should be completed and in operation a transmission line from Delavan to Sharon to supply the latter village with a twenty-four hour electric service. It also appears that representatives of the company stated that when the company had completed this transmission line the company would

do the water pumping for 75 per cent of what it was costing the village to pump. The village board, evidently feeling that their pumpage costs were high, made the above described agreement with the company. The representatives of the company state that the company entered into the agreement in order to get data on the expense of operating the plant under present conditions, so that upon completion of the transmisssion line it could figure closely on the cost of pumping with automatic electrically operated pumping apparatus to do the work.

OPERATING CONDITIONS.

The village of Sharon, up to the time the agreement referred to went into effect, operated a joint utility for the production and sale of gas and water, the gas manufactured being a gasoline gas. The gas and pumping stations are combined in a brick building located several blocks from the center of distribution, the arrangement of the plant being such that the boiler room is separated from the engine room, pumping and gas equipment.

With the permission of the village authorities, the United Heat, Light and Power Company installed a Westinghouse Junior, 10x92-cylinder engine and a 60 kw. generator in the boiler room, to handle the electric street lighting, etc., the engine to be operated from the boilers of the village plant.

The pumping equipment at Sharon consists of an air lift which raises the water from the well to a reservoir at the station, and a triplex pump which in turn elevates the water to the standpipe. The air lift is a simple arrangement of piping whereby the water is raised by means of compressed air. There are no working parts, and no valves are employed except to regulate the supply of air. The device consists of a partially submerged water pipe and an air-supply pipe. Compressed air forced into the water pipe at or near the bottom forms a series of bubbles or "pistons" which displace an equal volume of water. The successful operation of this device depends upon the ratio of the depth of submersion to the total lift, and the ratio of the area of the air pipe to that of the water pipe.

It appears that the well is 610 feet deep, the diameter 8 inches. The static head or water level is about 50 feet. The

drop, it is estimated, is close to 150 feet, making a total lift of 200 feet. It is not known what the total actual submergence is, but it is believed that the total submergence of the air pipe is close to 90 feet. From the air inlet, then, to the top of discharge the distance will approximate 290 feet. The quantity of air needed with efficient working conditions would, it appears, be close to 79 cubic feet per minute. To meet this demand of the air lift service and the gas plant, an air compressor having a piston displacement of from 90 to 100 cubic feet per minute would appear necessary. As a matter of fact, the air compressor is delivering about 106 cubic feet of air per minute at a speed of 116 r. p. m.

The data available indicate that the air lift pump is operated at an efficiency of about 86 gallons per minute. From the reservoir into which the air lift forces the water it is pumped by a triplex pump to the stand pipe. This pump, it appears, has been overhauled since the agreement mentioned went into effect and its efficiency has been increased from about 70 gallons to 109 gallons per minute. The pump, it is estimated, requires about six horse power to operate. A small blower is operated when the air compressor is connected direct to the well, giving, it is claimed, about 1½ lb. pressure upon the gas tank. The total load upon the engine, including friction of line shafting, etc., seems to be close to its full rating of 32 h. p. Since the agreement between petitioner and respondent has been in force considerable money has been expended upon the pumping engine and the air compressor and their efficiency has been considerably improved thereby. The steam pipes from boilers to engine have also been changed and certain defects have been eliminated.

GAS OPERATION.

Althought the petitioner in the present proceeding made no formal complaint concerning gas service, verbal statements made to the Comission during the investigation as to the operation of the gas plant under the agreement mentioned above make it appear advisable to investigate certain matters connected with the operation of the gas plant. The statements

referred to allege that under the system of operation now in force, both the pressure and the quality of the gas have varied and that the gas supply has failed completely at times.

The Commission has established standards for gas and electric service in Wisconsin but it has not been considered practicable to establish such standards for gasoline gas plants. Elements which go to make up adequate service: reliability, uniformity, safety, convenience, and intelligent utilization, are almost impossible of realization with this type of plant. The Commission has stated: "Adequate service is not necessarily the best service which it is possible to give, but rather the best service which can be given with due regard to economy to the consumer and to the company." (*In re Standards for Gas and Electric Service,* 1908, 2 W. R. C. R. 632, 642). It may be stated in general, other things being equal, that that gas is of the greatest value which has the greatest number of heat units per cubic foot. A gasoline gas of 800 or more B. t. u. per cubic foot is more costly, however, to the consumer than one of a lower B. t. u. rating, on account of the disproportionate expense of securing the high heating value. Tests made at several gasoline plants by inspectors of the Commission show that the average heat value is about 400 B. t. u. per cubic foot. During a large part of the year a gas having a heat value of 600 or more can be distributed, but it is believed this cannot be done without too greatly increasing the cost, while during the coldest weather it would probably be impossible. The heating value must be such as will enable gas to be sold to the consumer at the most reasonable cost.

The heating value of a gas, because of condensation, decreases to some extent with the distance that it is transmitted. The Sharon plant not being centrally located, it appears probable, although no tests have been made, that the gas supplied decreases in heating value considerably at points on the opposite side of town from the plant. A gas which fluctuates in heating value through too wide a range, which is a characteristic of gasoline gas, is almost as unsatisfactory as one which has an abnormally low heating value.

Almost as important as the calorific value is the pressure at which the gas is delivered. When gasoline gas is distributed the matter of pressure presents difficulties. With very low

pressures the distribution system of a gasoline plant, it is probable, would be inadequate so that high pressures are the rule with this type of plant. Instead of operating with pressures somewhere between 1½ to 6 inches of water, the pressure with gasoline gas is considerably greater than this. Burners and appliances in general use may be adjusted to consume gas most efficiently at the pressure at which a water or coal gas is delivered. Adjustments of burners using gasoline gas, it appears, are very frequent, resulting in a corresponding variation in the efficiency and satisfaction given by the gas. A certain range of variation is allowed in the operation of coal and water gas plants, and for plants supplying gasoline gas it is impracticable to set any standard.

It was stated by the engineer at Sharon that upon taking charge of the plant, he was instructed to use part of the material pumped from the drips to dilute the gasoline in the carburator of the gas machine. This it appears was unsatisfactory. In addition to what we have said in regard to the usual fluctuation of the gas pressure in this type of plant, the engineer stated that a three-quarter inch plug was found missing from a main opening, which relieved the pressure in a short time.

At the present time no gasoline gas plants are being installed in the state, this obsolete type being superseded in most instance by water gas machines. As we have indicated, to secure first class operation of a gasoline gas plant is almost impossible and to secure even fair results requires a degree of skill and a knowledge of the chemistry of hydro-carbons not possessed by the employes of these small plants.

In a village of the size of Sharon it is inexpedient to have more than one man at the plant, so that it is necessary to leave the apparatus to take care of itself during considerable periods of time. The cost of this kind of gas is already high and if and additional employe were required in the operation of the plant, the resulting cost would be prohibitive. However, the situation is such that it is a difficult matter to make recommendations.

The question to be determined in a case of this nature is how to get the best service practicable at a reasonable cost to consumers. The interests of the consumers must be conserved as far as possible without injustice to others. The taxpayers and

the consumers of the service rendered by the Sharon municipal plant are primarily interested in getting the service at the lowest possible cost, in order to secure as low rates as possible and at the same time to operate, if not at a profit, with as small a deficit as possible.

INCOME ACCOUNT.

The Sharon municipal gas and water plant submitted a report for the fiscal year ended June 30, 1913, in which it shows the following income account statement for the water department for the year:

OPERATING REVENUES:	
Commercial sales	$844.80
Municipal hydrant rentals	500.00
Total operating revenues	$1,344.80
OPERATING EXPENSES:	
Pumping	$793.95
Maintenance	62.21
Total pumping	$856.16
Distribution	98.19
Commercial	32.09
General	1.30
Undistributed	6.37
Total expenses	$994.11
NET OPERATING REVENUE	$350.69

The foregoing statement is manifestly incorrect in certain items. During February, March, April, May, and June, 1913, the United Heat, Light and Power Company, who was doing the pumping under the agreement previously noted, pumped 2,646,500 gallons of water, according to the report of the Sharon municipal plant. At 30 cts. per thousand gallons this would result in a charge for pumping of $793.95, which corresponds to the item noted in the foregoing expense statement. With this as a basis, it is evident that the expense resulting from the water pumped by the municipality itself during the other seven months of the year has been omitted from the report entirely.

The United Heat, Light and Power Company for the period ended June 30, 1913, reports earnings of $954.15 for pumping water at Sharon. Under the contract price of 30 cts. per thou-

sand gallons this would indicate that some 3,180,500 gallons were pumped from February to July, 1913, or 534,000 gallons more than were reported by the Sharon plant.

The other items noted in the income account are for this five month period. On the basis of the water pumped during the period noted, the indications are that with all consumers metered, approximately 7,646,400 gallons of water were pumped during the entire year. In an opinion of the Commission issued January 11, 1912, in the case of *Lothrop et al. v. Village of Sharon* (8 W. R. C. R. 479, 486) it was estimated, with no station meter to check the figures, that 11,000,000 gallons were pumped during the period considered. At that time, it might be noted, only 80 per cent of the consumers were metered, while at present all consumers are on a meter basis.

ACCOUNTING PROCEDURE AND BALANCE SHEET.

From the available reports and records of the utility it appears that for a time an attempt was made to comply with the provisions of the Commission for installing proper forms of accounts. Present examinations show, however, that the accounts prior to about March 21, 1913, were kept up properly, so that the desired information can be obtained only with difficulty.

Because of the fact that the books of the Sharon plant have never been balanced since the beginning of operation, no balance sheet has been submitted in any of the reports received by the Commission. A balance sheet, if properly presented, shows the actual condition of the business at the moment it is taken, giving information as to the solvency of the business and, to a certain extent, indicating profits which have been made. In the present investigation, however, such a statement is not available.

If we assume that 7,646,400 gallons of water are pumped during the year, at a cost of 30 cts. per thousand gallons, the total pumping expense, on the basis of the agreement previously mentioned, will amount to $2,293.92. The total expenses for the year, excluding depreciation and interest upon bonds and city equity would be about $2,431.87. It is evident from an

examination of the report, that the operating revenues reported are the actual receipts collected and not the amount earned. The municipal hydrant rental should be $1,000 and commercial sales, in all probability, will equal, if not exceed, $1,100.

APPORTIONMENT OF EXPENSES.

It was asserted by the representatives of the petitioner during the progress of this investigation, that in the investigation made by the Commission in the case of *Lothrop et al. v. Village of Sharon,* 1912, 8 W. R. C. R. 479, the Commission obtained a bare cost of 16.4 cts. per thousand gallons for pumping alone. It is evident that there is a misunderstanding in the minds of those representing the petitioner as to what was meant, in the opinion referred to, by the statement that "the total expense, including depreciation and interest, amounting to $3,744.19, is then distributed, $1,808.04 to output and $1,936.15 to capacity" (p. 486, case cited). This apportionment being misunderstood, the later statement, "Assuming a pumpage of 11,000,000 gallons with a total output charge of $1,808.04, gives a cost per thousand gallons pumped of about 16.4 cents" (p. 486, case cited), is also incorrectly interpreted. To make clear what is meant by "output" and "capacity" expenses, a short explanation appears advisable.

Cost of service is made up of different kinds of expenses. It must be clear to all that expenses incurred in the production and distribution of a service are not all of the same nature; as, for example, the expense of steam generation differs from interest on the investment. Such expenses as depreciation, interest, taxes, and certain *portions* of other expenses, are indirect expenses, and may be said to be determined by the investment necessary to provide for the consumers' demand. It logically follows that there are certain other expenses which are directly dependent upon the output of the plant, varying directly with the output.

For the purpose of cost analysis a system of accounts should be used that shows the direct operating expenses of the utility grouped into accounts covering the different steps of production in chronological order. Thus, the direct expenses of a water

utility are grouped into: Pumping, distribution, and commercial. The items included in these accounts can be charged directly to the various steps in the furnishing of water. The indirect expenses, also called "overhead" or "fixed", are grouped into general, undistributed, interest, depreciation, and taxes. These expenses cannot be charged to any particular operation, but must be distributed on some basis over the different units of the product. It is obvious that the indirect or capacity expenses do not vary with output, but, on the other hand, they are occasioned in supplying that output, hence output should bear its proportionate part.

The cost of supplying water is composed of three elements, the consumer, capacity, and output costs—the first two, however, sometimes being combined in utility accounts—and it is inequitable to assess the indirect expenses entirely to any one or two of these elements. Each element must bear its proper share.

These facts suggest that the rates charged for a service, in order to bear the proper relations to the cost of furnishing it, should be made up of a fixed charge, based, if possible, upon the consumer's demand, and of a variable charge for each unit used. In determining equitable water rates, no accurate demand data being generally available, the capacity expenses may sometimes be apportioned over the total number of consumers. The variable charge per unit used, which in the present case is one thousand gallons, is obtained by dividing the sum of all those expenses charged to output by the number of gallons of water consumed.

The output cost per thousand gallons *pumped* amounting to the 16.4 cts. above mentioned, is in no way comparable to the "Pumping expense" cost per thousand gallons pumped. The table of income accounts included in the opinion in the case of *Lothrop et al. v. Village of Sharon,* 1912, 8 W. R. C. R. 479, 485, shows, under "Operating expenses" (the first heading being "Production" instead of "Pumping" because of the fact that expenses of the gas plant are included in the table), that the water department in 1911 expended $2,048.84 for the mere pumping of water. At the time the opinion cited was issued, it was estimated—there being no station meter from which data could be obtained—that at least 11,000,000 gallons of water

would be pumped. It now appears from an examination of the monthly pumpage records since the station meter was installed that this estimate of 11,000,000 gallons was high and that at the time the estimate was made, as well as at the present time, not more than 7,000,000 to 8,000,000 gallons were being pumped yearly. On a 11,000,000 basis the *"pumping"* cost is 18.6 cts. per thousand gallons, while on the 7,646,400 gallon basis, which now appears to be nearer the correct figure, the "pumping" cost is 26.8 cts. per thousand gallons.

COST OF PUMPING.

The following statement has been compiled from data obtained from an audit of such accounts as could be secured from the books and records of the utility:

SHARON MUNICIPAL WATER & GAS PLANT

"PUMPING" EXPENSE ACCOUNT

Water Department.

For the period from June 1, 1912, to March 21, 1913.

Steam expense	$1,599.58
Power "	483.06
Misc. "	17.35
Total	$2,099.99

Pumpage during this period, as nearly as we can determine, was approximately 6,040,000 gallons, giving a cost of 34.7 cts. per thousand gallons. Deducting from the above items those expenses incurred during February and March, when the plant was being operated under the agreement, the balance equals about $1,868.24, which with a pumpage of 5,320,000 gallons gives a cost of 35 cts. per thousand gallons pumped, indicating a slight average reduction in costs soon after respondent began operations. The foregoing figures would indicate that the bare cost of pumping has increased considerably over the showing made in 1911. Adding to the above expenses allowances for water used for cooling the air compressor and for use in the boilers, totaling about $200 from June 1 to February 1, 1913, increases the unit costs to 38.8 cts. per thousand gallons.

It is of interest to note that for 18 class C water plants reporting for the year ended June 30, 1912, from villages varying

from 700 to 1,400 population, the average cost of pumping was $1,091.18, the median being $1,128.85. The average of all class C plants was $1,702.36. These figures would indicate that the costs at Sharon are considerably above normal. With a pumpage, we will say, of 8,000,000 gallons at the average expense of $1,702.36 the cost per thousand gallons would be 21.3 cts. At an expense of $1,091.18, on the other hand, the cost would be 13.6 cts. per thousand gallons.

An examination of the apportionment of expenses made by the United Heat, Light and Power Company between water pumping and generation of electric current at Sharon would indicate that the company has charged to the latter an amount in excess of what might reasonably be so charged when the coal and the labor required by each and other items are carefully considered. Reapportioning the items, however, results in increased pumping expenses that leave very little difference between the cost per thousand gallons and the rate of 30 cts. per thousand gallons received by the respondent.

It was admitted by both parties during the progress of this case that the engine which operates the triplex pump and air lift system had been in such a bad state of repair that it required practically all the steam it was possible to generate in a nearly new 110 h. p. boiler. Inasmuch as this was true during part of the life of the agreement previously mentioned, it is evident that the company, with inefficient apparatus, was able to pump the water and deliver it to the standpipe at a lower cost per thousand gallons pumped than was the village of Sharon when the latter did the pumping with the equipment in supposedly good condition. However, the remedying by the company of the inefficient condition of the engine no doubt contributed more than anything else to the lessening of the costs.

To obtain cost figures which would be at all accurate, it was necessary to carefully examine the expenses for the period during which the plant was operated by the United Heat, Light and Power Company and to make apportionments between electric generation and pumping. The company reports $733.16 as expenses incurred during the period February 1 to June 30 in pumping 3,180,500 gallons of water. This gives a unit cost of 23 cts. per thousand gallons. It appears that the company

has charged to electric generation an amount in excess of what should have been so charged. For this reason we have reapportioned the pumping expenses between the different classes of service.

These apportionments indicate that from February 1 to June 30, 1913, some $899.22 was chargeable to pumping water. In addition to this it appears that the company should be assessed for water used for cooling the air compressor and for steam generation.

Present indications point to a consumption for these purposes of about 3,000 gallons a day. Assuming that this water is paid for by the respondent at the regular rates, this expense will amount to about $124.75 for the period in question, making the total expenses $1,023.97. Without a charge for this water the unit cost per thousand gallons pumped, on a basis of 3,180,500 gallons, is 28.3 cts. With this charge included the cost will amount, it appears, to about 32.2 cts. per thousand. The revenue received during the period amounts to $954.15, which results in a surplus of $54.93 on the first basis and a deficit of $69.82 on the second.

For the period from June 30 to September 30, 1913, we have apportioned $500.37 to pumping. During this period 2,208,900 gallons of water were pumped. This gives a cost of 22.7 cts. per thousand gallons. If we now add the cost of water used for cooling etc., amounting to about $69.75, the unit cost per thousand gallons is increased to 25.9 cts. It will be seen that under the respondent's operation for a number of reasons which will be pointed out later, the costs are decreasing.

Of the expenses, amounting to $1,928.56, incurred by the United Heat, Light and Power Company during the entire period from February 1 to September 30, 1913, $1,399.59 are apportionable to cost of pumping. During the period named, 5,389,400 gallons of water were pumped by the company. This gives an average cost of 26 cts. per thousand. If, however, there is added to the $1,399.59 the cost of the cooling water and the water used for steam generation, which amounts to about $194.50, the total expense is increased to $1,594.09 and the unit cost to 29.5 cts. per thousand.

It might be said in connection with the apportionments outlined above, that when the total expenses charged to electric gen-

eration are deducted from revenues received from electric service, very little is left to offset lamp renewals, taxes, depreciation and interest.

It does not seem unreasonable to allow the respondent the margin, equivalent to the slight difference between its cost of pumping and the contract price, resulting from more efficient operation and the consequent saving in certain items to be noted later.

Although the contract price of 30 cts. per thousand gallons pumped is slightly higher than the figures indicate the cost to be to the United Heat, Light and Power Company, this price of 30 cts. is lower than the cost was when the village did the pumping, when items noted herein are taken into consideration.

The indications are that if the pumping apparatus were to be maintained in its present fairly efficient condition, and other factors promoting efficient operation were to continue as they are, the pumping cost to the village might be considerably reduced, if the village were to do the pumping. The air lift system of pumping water as now installed by manufacturers of such equipment is not an uneconomical method of pumping water from deep wells. Results obtained with improper methods of well piping in connection with inefficient compressors, from which satisfactory results cannot be expected, are no indication that efficient, low cost operation cannot be obtained at Sharon. That there is some defect in the well, either in the casing or in the submergence of the air pipe, a deficiency of water or a clogging of the suction appears probable from the tentative examination made.

Air compressors as now manufactured operate with much less fuel for a given power than was formerly required. So many successful plants are now at work under widely different conditions of volume and lift that the designing of air lifts has been reduced to a scientific basis. It appears in the present instance that the well and its equipment need considerable overhauling to insure that efficiency which should be secured with the type of apparatus used.

As regards the triplex pump and 32 h. p. engine at Sharon, it appears that the slip in the pump, which was above normal, has been remedied, that the engine, which was in such poor condition that an abnormal amount of steam was required to oper-

ate it, has been overhauled and that the leaky valves in the engine have been repaired.

The low maintenance expenses noted in the accounts under village operation may be reflected in poor physical condition of the plant, which would cause the costs to the village to increase abnormally at some time in the future. There are many items in addition to those mentioned above which help to contribute to greater efficiency. Expert supervision results in attention to many small details which have a marked bearing on the cost per thousand gallons of water pumped.

An examination of the coal bills incurred by the village during its operation of the plant shows that the price paid for coal varied from $5 to $6 per ton at the plant. The United Heat, Light and Power Company, however, during the period from February 1 to September 30, 1913, paid on an average $3.00 per ton at the plant for all coal used. The difference in the cost of coal alone will about cover the difference in the pumping costs.

It appears, then, that the variation between the contract price per thousand gallons for pumping and the cost to the respondent is made up of savings in the cost of fuel, improved efficiency of equipment, etc.

As regards compensation to the village for the use of the municipal power house boiler equipment, etc., for electric generation, no provision whatever was made in the agreements between the interested parties. It is hardly possible that a provision for compensation can be read into the agreement, but it appears that it was understood that in return for the privilege of installing and operating an engine and generator in part of the station, the United Heat, Light and Power Company was to operate the municipal gasoline gas plant. The agreement does not specify as to what is to be understood as included in the operation of the gas plant and for this reason dissatisfaction has arisen, certain citizens claiming that the village now has to pay for certain gas operation expenses which should be borne by the respondent. It may have been verbally understood that the respondent was to perform these operations, but inasmuch as nothing was incorporated in the agreement, it is not clear how the village can expect the United Heat, Light and Power Company to pursue any but the course now followed.

The view is held by certain citizens of Sharon that the village is bound to supply only the gasoline for the operation of the gas plant. They maintain that the accounts of the village show expenditures of considerable amounts which should have been taken care of by the respondent. It appears to us, upon examining these items and the agreement under which the respondents was operating, that the assumption that the United Heat, Light and Power Company should bear these costs is erroneous.

From what has been said it is obvious that the conditions disclosed by the investigation made by the Commission are such that no readjustment of the rate for pumping is required. This conclusion is supported not only by the facts here presented and discussed, but also by a great deal of other and equally important data which, for lack of space, could not be given in detail. The purpose in the present report of the situation at Sharon has been to point out some of the leading features of the case which, among other things, throw light on the conditions which primarily caused the complaint in the present proceeding; the practices which brought about these conditions, the probable result of the controversy if the agitation is permitted to go on, and what in the light of the facts obtained appears to be the proper mode of procedure in order that normal conditions may be restored.

The fact that the present case was brought before the Commission upon the stipulation of all parties concerned, that the Commission decide the difference between the parties as to the efficiency of operation under the pumping agreement and the value of the agreement, and determine the liability of the village and company in view of all the facts and circumstances, leads us to believe that the reasonableness of the agreement is a proper subject for consideration by the Commission.

One of the important questions to be disposed of, in this view of the case, relates to the legal rights of the village of Sharon as owner of the plant and the legal rights of the United Heat, Light and Power Company as owner and operator of certain equipment installed in the plant in connection with equipment belonging to the village.

The United Heat, Light and Power Company contends that, regardless of the question of fact as to whether damage has resulted to the village from the change in operation of the water

works, the village, notwithstanding the expiration of the pumping contract, is precluded from setting up any claim for refunds or rebates, by reason of its acquiescence in the use of the plant by the United Heat, Light and Power Company and its payment of all bills presented to it from May. 10, 1913, to October 13, 1913.

The village board has manifested no intention of instituting such proceedings, except that the president has stated that if the Commission finds the rate for pumping too high the village would expect a refund. The village board is willing to pay the contract rate for the water pumped by the United Heat, Light and Power Company if that rate is found to be equitable. The only question is whether the company shall receive for the service performed since the expiration of the contract the same compensation which it received while the contract was in force. With respect to the management of the plant there is no evidence to show that the service has been deficient or that there has been a laxity in operation causing the plant to deteriorate to a greater extent than under the previous conditions of operation.

SUMMARY.

Investigation indicates that the petitioner's contention that the respondent has increased the cost of pumping the water for the village water system, contrary to the agreement, is not well founded, as no clause requiring the total expenses to be kept within certain limits appears in the agreement.

The contention that the village with its own equipment can furnish service at less cost, is not borne out by the facts, as it appears from the data now available that the village was never able to accomplish this in the past.

As regards the contention that the village has to bear the cost of depreciation, upkeep, etc., it should be noted that the contract involved in the present proceeding specifically provided that the United Heat, Light and Power Company should keep the boilers in repair and that the village of Sharon should maintain the other equipment installed by the village. Under the terms of the contract depreciation was, therefore, left to be provided for by the village.

It is not believed that equitable treatment of the village requires that the respondent should pay a rental in addition to operating the gas plant for the use of a portion of the station for its electrical equipment.

The Commission, after careful consideration of the facts which have been discussed above, is of the opinion that the terms under which the United Heat, Light and Power Company is operating in the village of Sharon, insofar as matters concerned in the present proceeding are involved, are not unreasonable and the petition will therefore be dismissed.

NOW, THEREFORE, IT IS ORDERED, That the petition be dismissed.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF THE RULES, REGULATIONS AND PRACTICES OF THE CHIPPEWA VALLEY RAILWAY, LIGHT AND POWER COMPANY IN FORCE IN THE CITY OF EAU CLAIRE, WISCONSIN.

Decided Nov. 4, 1913.

The Commission, on its own motion, further investigated the matter of the electric rates charged by the Chippewa Valley Ry. Lt. & P. Co. for service in the city of Eau Claire, for the purpose of considering the advisability of revising the order issued Nov. 11, 1912 (10 W. R. C. R. 692). This order, which gave the utility a choice between two schedules designed to eliminate discriminatory practices previously followed, was suspended prior to the date on which it was to go into effect, on the ground that the utility had additional facts to present to the Commission.

Held: The adoption of either of the schedules proposed in the order of Nov. 11, 1912, would result in many increases in rates which do not seem warranted at the present time. The order in question is therefore revoked and the utility is ordered to place in effect on Dec. 1, 1913, a new schedule of rates determined by the Commission.

SUPPLEMENTARY ORDER.

The Commission issued a decision in the above entitled matter on November 11, 1912 (10 W. R. C. R. 692), giving the utility a choice between two schedules which eliminated some of the practices which were the subject of complaint. This order, however, was suspended prior to the date on which it was to go into effect, on the ground that the utility had additional facts to present which had not been before the Commission.

Further investigation of the entire rate situation in Eau Claire discloses the fact that the putting into effect of either of the two schedules proposed in our former order would result in a great many increases in rates which do not seem warranted at this time.

IT IS THEREFORE ORDERED, That the order in the decision dated November 11, 1912, shall be and hereby is revoked.

IT IS FURTHER ORDERED, That the Chippewa Valley Railway, Light and Power Company shall abandon its persent schedule of rates for electric light and place in effect the following:

LIGHTING SCHEDULE.

Residences.

In all residences the rate shall be 15 cts. per month for each 50 watt unit, or its equivalent, of active connected load, and 3 cts. per kw-hr. for all current consumed. The active load shall be based on the lamps connected, excluding appliances, and shall be assessed as follows:

60 per cent of the first 500 watts.
33⅓ per cent of the next 3,000 watts.
20 per cent of all in excess of 3,500 watts.

Business.

Commercial lighting shall include retail and wholesale mercantile establishments, saloons, restaurants, depots, and all other consumers not herein otherwise specifically provided for. Such lighting will be done by means of approved incandescent lamps, or by six ampere a. c. arc lamps, at the option of the consumer, and the prices for such lighting shall be as follows:

Incandescent Lighting: The rate for business incandescent lighting shall be 15 cts. per month for each 50 watt connected capacity, or its equivalent, and 3 cts. per kw-hr. for all current consumed; provided that to all consumers not using more than 100 per cent nor less than 10 per cent of their total connected interior capacity for window display purposes, all lights so used shall be considered and paid for as nonactive lights at the rate of 3 cts. per kw-hr. for the current consumed; and the maximum rate to all consumers who shall come within the terms of this proviso shall not exceed 6 cts. per kw-hr. for the total current used. In case the capacity of the window lights exceeds the interior lights, such excess shall be paid for under the meter rate for window lighting.

Arc Lighting: The rate for business arc lighting shall be 45 cts. per month for each six ampere a. c. arc lamp connected, plus 3 cts. per kw-hr. for all current consumed; the maximum rate per month, however, in such case shall not exceed 6 cts. per kw-hr. for the total current used each month.

Window, Sign and Advertising Lighting, where not connected with interior lighting, shall be paid for under either of the following schedules:

A. Flat rate for unmetered window, sign and advertising lighting contracted to burn according to the schedule tabulated below on yearly contracts. Lights to be turned on and off by the company.

Lighting Schedule.

	On	Off
Jan. 1–15	4:10	11:30
" 16–31	4:30	11:30
Feb. 1–15	4:45	11:30
" 16–28	5:00	11:30
Mar. 1–15	5:30	11:30
" 16–31	6:00	11:30
Apr. 1–15	6:30	11:30
" 16–30	6:50	11:30
May 1–15	7:10	11:30
" 16–31	7:30	11:30
June 1–15	7:50	11:30
" 16–30	8:00	11:30
July 1–15	8:00	11:30
" 16–31	7:50	11:30
Aug. 1–15	7:40	11:30
" 16–31	7:25	11:30
Sept. 1–15	7:00	11:30
" 16–30	6:20	11:30
Oct. 1–15	5:35	11:30
" 16–31	4:50	11:30
Nov. 1–15	4:10	11:30
" 16–30	4:00	11:30
Dec. 1–31	3:45	11:30

Watts	Price	Watts	Price
5	$0.41	60	$4.92
25	2.05	100	8.19
40	3.28	150	12.28
50	4.10	250	20.50

B. Meter rate 10 cts. per month per 50 watt connected capacity plus 3 cts. per kw-hr. for all current consumed. The maximum rate for this class of service shall be 6 cts. per kw-hr.

Hotels, Clubs and Boarding Houses: The rate shall be 15 cts. per month for all active lights and 3 cts. per kw-hr. for all current consumed. In this class 55 per cent of the connected load shall be deemed active.

Auditoriums, Dancing Halls, Opera Houses, Lodge Rooms, Churches, Y. M. C. A., Warehouses, Warerooms or Wholesale and Jobber's Houses, and Manufacturing Plants. The rate shall be 15 cts. per month for one-third of all connected units of 500 watts or its equivalent and 3 cts. per kw-hr. for all current consumed, provided that all lights in general offices and clerical rooms of this class shall be rated as active lights.

Equipment and Renewals.

In all foregoing rates, unless otherwise specifically stated, the consumer shall furnish and renew all lamps, except arc lamps, and all switching and wiring on the premises, and the company shall furnish arc lamps, transformers, meters and sufficient wiring, pole line and other equipment necessary to deliver the current to the premises.

Flat Rates.

The company shall not be required, at its own expense, to furnish or install meters for any consumer using less than five 50 watt units, or the equivalent thereof, in any one building, and shall be authorized to charge consumers using three or more such units a flat rate of 30 cts. per month per unit in residences and 50 cts. per month per unit in business places; or the company may, at its own option, install a meter for any such consumer, in which event the rate shall be as specified in the above classification.

Minimum Rate.

The company shall be authorized in every case where a meter is installed to make a minimum charge of $1.00 per month, and to flat rate customers a minimum charge of 90 cts. per month in residences and $1.50 per month in places of business.

Maximum Rate.

The maximum rate, except where authorized by the minimum charge heretofore provided for, shall in no instance exceed 9 cts. per kw-hr.

These rates shall go into effect December 1, 1913.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF THE SERVICE OF THE ELDERON TELEPHONE COMPANY.

Submitted July 19, 1912. Decided Nov. 5, 1913.

The Commission, on its own motion, investigated the service of the Elderon Tel. Co. after receiving informal complaint that the said service is inadequate.

Held: The service rendered by the utility is inadequate. Although the Commission is formulating definite standards for telephone service to apply to all telephone companies, the situation in the present case seems to warrant a special order, pending the establishment of such standards, to insure prompt attention to the betterment of the service. The utility is therefore ordered: (1) to make such improvements and additions to its equipment as are necessary to establish adequate service on its lines and thereafter maintain adequate service; and (2) to furnish the Commission, until further notice, before the 10th day of each month, with a statement of the causes and durations of all interruptions in service during the preceding month and the remedies therefor.

Informal complaint having been made that the service of the Elderon Telephone Company is frequently interrupted and is inadequate and unsatisfactory, the Commission, on its own motion, ordered an investigation of the matter. A hearing was held on July 19, 1912, at Eland Junction, at which the Elderon Telephone Company was represented by *A. J. Plowman.*

It appears from the testimony that the Elderon Telephone Company has its central office at Eland and operates telephone lines from Elderon to Eland, Galloway, Wittenberg, and other places in the vicinity. The chief complaint brought out at the hearing is that patrons whose telephones are connected with the Galloway line are unable to hear distinctly persons speaking from other points on the Elderon Telephone Company's lines or from points on lines with which it connects. Long distance service was said to be particularly poor in this respect. It was also stated that the service is frequently interrupted. The director of the Elderon Telephone Company attributed the poor long distance service to conditions on the connecting lines, and stated that local interruptions in service are sometimes the result of wires coming in contact with green trees.

Subsequent to the hearing other informal complaints were received, and the inspectors of the Commission investigated the conditions on the company's lines. These investigations show that at many points the lines have been broken by falling trees and reconnected by splicing in short pieces of wire. In some instances as many as twelve joints were observed in a single span. It was also found that "trouble" is not taken care of promptly and that no records of "trouble" and the delay occasioned by it have been kept. The Commission's inspectors made use of the service and at several different places experienced difficulty similar to that described by witnesses.

In the light of the testimony and of the reports of our engineers it is our judgment that the service rendered by the Elderon Telephone Company is inadequate. The Commission is formulating definite standards for telephone service to apply to all telephone companies, but the situation in this case seems to warrant a special order, pending the establishment of such standards to insure prompt attention to the betterment of the service. The equipment and lines should be so constructed and maintained as to insure reasonably continuous service, and the construction should be reasonably free from interference from the limbs of trees. Sufficient tests and inspections should be made by the utility to determine the condition of all lines, and a complete record kept, showing the nature of each complaint and each case of "trouble", the duration of the "trouble" and how it was overcome.

IT IS THEREFORE ORDERED, That the Elderon Telephone Company make such improvements and additions to its equipment as are necessary to establish adequate service on its lines and thereafter maintain adequate service.

IT IS FURTHER ORDERED, That said company furnish the Commission, until further notice, before the 10th day of each month, a statement of the causes and durations of all interruptions in service during the preceding month and the remedies used therefor.

ETTRICK TELEPHONE COMPANY
vs.
LA CROSSE TELEPHONE COMPANY.

Submitted Oct. 16, 1913. Decided Nov. 6, 1913.

The petitioner requests that the respondent be compelled to grant it the same terms for toll service over the respondent's toll line from Galesville to La Crosse that the respondent grants to the Western Wisconsin Tel. Co. The respondent collects from the petitioner 75 per cent of the tolls received by the petitioner from its subscribers for use of the toll line in question. The respondent and the Western Wisconsin Tel. Co. own the toll line jointly and each company retains all toll revenues originating on its own lines. The Western Wisconsin Tel. Co. charges all subscribers who desire toll line service a flat rate of $12.50 more per year than it charges subscribers who do not desire this service. For individual messages it charges the same toll rate as the petitioner.

Held: The request of the petitioner cannot be granted. The respondent and the Western Wisconsin Tel. Co. were acting entirely within their right in making the present apportionment of revenues between themselves and, so long as this appportionment does not result in prejudicing the rights of subscribers or patrons of either company, the action of the two companies in this matter is not subject to revision or modification by public authorities. Even where physical connection of lines is enforced under the statute, it is contemplated that the companies shall agree upon the apportionment of the joint tolls, and it is only in case of failure of agreement that the Commission has authority to make the apportionment. Moreover, in making the apportionment the Commission is bound both by statutory and by constitutional requirements to provide for such reasonable terms and conditions as will avoid the taking of property without compensation. Under the circumstances the apportionment of the toll revenues between the respondent and the Western Wisconsin Tel. Co. is no criterion for judging the reasonableness of charges exacted of a connecting company desiring the toll line facilities but having no proprietary interest in these facilities. The petition is therefore dismissed.

The petitioner alleges that physical connection between its system and the toll lines of the La Crosse Telephone Company is made through the Western Wisconsin Telephone Company's toll board at Galesville; that the La Crosse Telephone Company collects 75 per cent of the tolls received by the petitioner from its subscribers for use of the toll line to La Crosse, but makes no charge to the Western Wisconsin Telephone Company for

messages going from Galesville to La Crosse. Wherefore, the petitioner asks that it be placed on the same basis as the Western Wisconsin Telephone Company. It demands that if the La Crosse Telephone Company continues to exact a charge of 75 per cent on all revenues received by the petitioner for toll line service to La Crosse, it be required to exact the same charge of the Western Wisconsin Telephone Company, or, if the La Crosse Telephone Company renders such service free to the Western Wisconsin Telephone Company, that it be required to furnish the same service free to the petitioner.

The respondent, answering the petition, admits that it exacts of the petitioner 75 per cent of all tolls as alleged, and that such is the usual or universal charge to all companies or stations having connection with the respondent's toll system, excepting the Western Wisconsin Telephone Company. It alleges that the Western Wisconsin Telephone Company allows revenue to it in other ways than by exacting 75 per cent on tolls; that the Western Wisconsin Telephone Company owns and operates nine exchanges, and has in effect two rates, one covering the entire system outside of toll line service, and another rate to subscribers who desire toll service to La Crosse and Winona; that if the respondent were to charge the Western Wisconsin Telephone Company at the message rate, it would involve a change of rates of the entire system of the Western Wisconsin Telephone Company; that the respondent does not give the Western Wisconsin Telephone Company free calls to La Crosse, because the respondent retains all receipts for messages originating on its system and passing to the nine exchanges of the Western Wisconsin Telephone Company, which receipts are in lieu of the 75 per cent of all tolls over the toll line to La Crosse.

The matter came on for hearing October 16, 1913. The petitioner was represented by *John Norgaard,* its president, the respondent by *W. F. Goodrich,* its president, and the Western Wisconsin Telephone Company by *John C. Gaveney,* its attorney.

The petitioner is a mutual company and maintains an exchange in Galesville and another in Ettrick. Connected with these exchanges are its rural lines. Each subscriber owns one share of stock of the par value of $40, and is obliged to pay annually an assessment of $5 for the maintenance and operation of the plant.

The Western Wisconsin Telephone Company owns and operates nine different exchanges in Trempealeau and Buffalo counties, which are connected by metallic toll lines. It has exchanges in Galesville and Ettrick. The total number of its subscribers is approximately 1,700, of which 1,100 are rural subscribers. In Galesville and in Ettrick its exchanges compete with those of petitioner. The charges to its subscribers are $12.50 for service over the entire system, and $25.00 for service over the entire system including toll line service to La Crosse and to Winona, Minn. The toll line extending from La Crosse to Galesville is owned in part by the Western Wisconsin Telephone Company and in part by the La Crosse Telephone Company. The former owns and maintains that portion of the line running between Galesville and Hunters Bridge over the Black river. The La Crosse company owns and maintains that portion of the line between Hunters Bridge and La Crosse. The Western Wisconsin Telephone Company also owns the toll line leading from Galesville to Winona, where it connects with the North Western Telephone Company.

The Western Wisconsin Telephone Company charges all subscribers who are not upon the flat rate of $25.00 per annum the same toll rate per message which is paid by the subscribers of the petitioner. Its arrangements with the La Crosse Telephone Company is such that each of the companies retains all toll revenues originating on its own lines. This arrangement between the companies seems to be satisfactory to both. In making such apportionment of the joint tolls the companies were acting entirely within their right and so long as the apportionment does not result in prejudicing the subscribers or patrons of either company, their action in the matter is not subject to revision or modification by public authorities. Even where physical connection of lines is enforced under the statute, it is contemplated that the companies shall agree upon the apportionment of the joint tolls, and it is only in case of failure of agreement that the Commission has authority to make the apportionment.

The petitioner insists that it be placed upon the same basis as the Western Wisconsin Telephone Company respecting the division of tolls with the La Crosse company. This seems impossible, as the petitioner is a mutual company, has no interest

in the toll line, and desires the connection merely for the convenience of its patrons. If the petitioner were not required to exact toll charges of its subscribers and patrons, the Western Wisconsin Telephone Company, in order to protect its business, would be obliged to refrain from charging its subscribers either the $12.50 additional annual rate for toll service, or 15 cts. per message, according to its schedule. Manifestly, this would be unfair to the Western Wisconsin Telephone Company, because its toll line facilities in such event would be used to prejudice its revenues. A telephone company, no more than an individual, can insist that a connecting telephone company furnish its toll line facilities free of charge, for that would be clearly taking property without compensation and would meet the condemnation of constitutional provisions. In compelling physical connection between two telephone systems, it must be remembered that the statute provides for reasonable terms and conditions. It could not validly provide that one company should give another the use of its toll lines without compensation.

In the instant case, as has already been shown, the La Crosse company and the Western Wisconsin company are the owners of the toll line in question. Under the circumstances the apportionment of the toll revenues between them is no criterion for judging the reasonableness of charges exacted of a connecting company desiring the toll line facilities but having no proprietary interest therein.

If the La Crosse company did not require the petitioner to exact a toll from its subscribers for toll service, the result would be that the subscribers of the petitioner would receive toll service free, while the subscribers of the La Crosse company would be obliged to pay a toll service charge to communicate with the subscribers of the petitioner. This results from the fact that the petitioner is a mutual company. We fail to see any unjust discrimination against the petitioner as charged in the petition. Under the circumstances the petition will be dismissed.

NOW, THEREFORE, IT IS ORDERED, That the petition be and the same is hereby dismissed.

IN RE DETERMINING AND FIXING A JUST COMPENSATION TO BE PAID TO THE JANESVILLE WATER COMPANY BY THE CITY OF JANESVILLE FOR THE TAKING OF THE PROPERTY OF SAID COMPANY ACTUALLY USED AND USEFUL FOR THE CONVENIENCE OF THE PUBLIC.

Decided Nov. 6, 1913.

Objection to the jurisdiction of the Commission is made by the Janesville W. Co. in the proceeding instituted by the city of Janesville for the purpose of acquiring the company's water plant. The objection, by consent of the parties, is to be determined before the proceeding is further continued.

It is contended by the company that the city has never determined, as required by law, to acquire the water plant or property of the company, inasmuch as the question submitted at the general spring election in 1912 was as follows: "Shall the city of Janesville purchase the Janesville Water Company?"

It is further contended that the matter of the payment of just compensation for the property proposed to be taken has never been considered, voted upon or determined by the electors or by the common council of the city, as required by law; that no fund has been provided out of which payment may be made, as required by law; that no provision for such payment has been made; and that the city is without power, under sec. 3 of art. XI of the state constitution, to incur the indebtedness proposed to be incurred in the making of such payment.

Held: The questions here raised were decided by the Commission in the *Racine* case (1912, 10 W. R. C. R. 543) and the position of the Commission was affirmed by the supreme court in the case of *Janes v. City of Racine* (143 N. W. 707). The objections are therefore overruled.

On January 23, 1913, the city of Janesville filed its notice with the Commission setting forth that the said city had determined to acquire the water plant of the Janesville Water Company, which determination was made by the votes of a majority of the electors of the city of Janesville, voting on said question at the general spring election held in the said city on April 2, 1912, at which election the question of the purchase of such plant was duly submitted, and that the Janesville Water Company was at the time of said election and determination operating under an indeterminate permit under and in accordance with the provisions of the Public Utilities Law, and has by reason of the acceptance of such permit consented to the taking over of such plant by the said city of Janesville.

Upon the filing of said notice the hearing was fixed for May 8, 1913, and due notice of such hearing given to all parties interested, in accordance with the provisions of ch. 499, laws of 1907, and acts amendatory thereof and supplementary thereto.

The Janesville Water Company on February 28, 1913, filed with the Commission objection to the proceeding, on the ground that the Commission has no jurisdiction thereof, for the reasons:

1. That the city of Janesville, at the general spring election held in said city on April 2, 1912, did not determine to acquire the water plant of Janesville Water Company, nor the property of said company and public utility, but that, on the contrary, the question that was submitted to the voters at said election, and the only question then or at any other election voted upon, was as follows, to-wit: "Shall the city of Janesville purchase the Janesville Water Company" and that the matter of the acquisition or purchase by said city of the water plant or property of said company has never been submitted to a vote of the electors of said city of Janesville, as required by law.

2. The matter of payment by the city of the just compensation to which the Janesville Water Company would be entitled for the property proposed to be taken has never been considered, voted upon, or determined by the electors, or by the common council of the city, as required by law.

3. No fund has been provided by law, or by vote of the electors or of the common council of the city, out of which just compensation may be made to, or secured by, the Janesville Water Company for the property proposed to be taken, as required by law.

4. The city of Janesville has not at any time, either before or since the giving of notice of its option to purchase and acquire the property of the Janesville Water Company, made provision for the payment of just compensation therefor, required to be made by sec. 13 of art. I, and by sec. 3 of art. XI of the constitution of the state of Wisconsin.

5. The city of Janesville, at the time the election herein referred to was held and at the time of the adoption by its common council of the resolution and notice served upon said Janesville Water Company as above stated, was without power, under sec. 3 of art. XI of the constitution of the state of Wisconsin, and now is without power to incur the indebtedness it proposed to incur in this proceeding.

By stipulation of the parties, the hearing was continued until June 10, 1913. At the time of the hearing it was agreed that the objections should be considered before the offering of any testimony in the proceeding.

The city of Janesville was represented by *W. A. Dougherty,* city attorney, and the Janesville Water Company by *M. G. Jeffris* and *O. A. Oestreich,* its attorneys.

The objection interposed to the jurisdiction of the Commission raises the same questions that were presented in the *Racine* case (10 W. R. C. R. 543). In the decision rendered on Oct. 28, 1913, in the case of *David G. Janes v. City of Racine et al.* (143 N. W. 707) the supreme court of this state affirmed the position of the Commission and disposed of the objection adversely to the contention of the Racine Water Company. The reasons assigned by the court are here applicable, and the ruling in that case is controlling here.

Under the circumstances the objection is overruled and further hearing and investigation will take place at the office of the Railroad Commission, in the city of Madison, at 10 o'clock a. m. on November 24, 1913.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF THE CROSSINGS SOUTH OF MUKWONAGO ON THE LINES OF THE MILWAUKEE LIGHT, HEAT AND TRACTION COMPANY, AND THE MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY.

Decided Nov. 12, 1913.

The Commission, on its own motion, investigated three highway crossings near Mukwonago, Waukesha county, located two on the M. St. P. & S. S. M. Ry. and one on the line of the M. L. H. & T. Co. The M. St. P. & S. S. M. Ry. Co. has agreed to install bell protection at the crossing located on its line three-fourths of a mile south of Mukwonago. Two crossings, therefore, remain for consideration. Both railway companies approve of a plan to eliminate the Rochester road crossing on the M. St. P. & S. S. M. Ry. and to protect the remaining crossing, at Front st. on the M. L. H. & T. Co's line by diverting the Rochester road into Front st. and enlarging the Front st. subway, first, to accommodate the increased traffic and, second, to provide a better view of the interurban cars. The M. St. P. & S. S. M. Ry. Co. is willing to bear the entire expense of the proposed alterations. The village authorities oppose this plan and request that a subway at the Rochester road crossing be ordered.

Held: Each of the two crossings under consideration is dangerous. The interests of all will be best subserved by relocating the highway. The M. St. P. & S. S. M. Ry. Co. is therefore ordered to construct, and maintain for a period of three years, a suitable highway connecting the Rochester road and Front st., to acquire the land necessary therefor, and to enlarge the subway on Front st., plans to be submitted. The portion of the Rochester road lying within the railway right of way is to be closed.

The Commission, on its own motion, investigated three highway crossings near Mukwonago in Waukesha county. They are designated as follows:

1. A crossing on the line of the Minneapolis, St. Paul & Sault Ste. Marie Railway Company located three-fourths of a mile south of Mukwonago;

2. A crossing on the line of the Minneapolis, St Paul & Sault Ste. Marie Railway Company at the Rochester road, nine-tenths of a mile south of Mukwonago;

3. A crossing on the line of the Milwaukee Light, Heat and Traction Company located at Front street, immediately west of the Minneapolis, St. Paul & Sault Ste. Marie Railway Company's trestle over the electric line.

Hearings were held as follows:

1. December 29, 1911, at Madison. Appearances: For the M. L. H. & T. Co., *Van Dyke, Rosecrantz, Shaw & Van Dyke,* by *James D. Shaw;* for the M. St. P. & S. S. M. Ry. Co., C. N. *Kalk.*

2. November 13, 1912, at Mukwonago. Appearances: For the village of Mukwonago, *J. A. Sheridan;* for the M. L. H. & T. Co., *R. B. Stearns;* for the M. St. P. & S. S. M. Ry. Co., *C. N. Kalk.*

3. August 4,. 1913, at Mukwonago. Appearances: For the village of Mukwonago, *C. F. Hunter;* for the M. L. H. & T. Co., *A. H. Pinkley;* for the M. St. P. & S. S. M. Ry. Co., *C. N. Kalk.*

Subsequent to the second hearing the Minneapolis, St. Paul & Sault Ste. Marie Railway Company agreed to install bell protection at the crossing on its line located three-fourths of a mile south of Mukwonago. This decision will therefore refer only to the crossings at the Rochester road and at Front street.

Rochester Road Crossing.

The testimony shows that the Rochester road runs approximately east and west and the line of the Minneapolis, St. Paul & Sault Ste. Marie Railway Company northwest and southeast, the angle of crossing being about 30 degrees. The highway ascends to the tracks on a grade varying from 6 to 12 per cent from the east, and on about a 3 per cent grade from the west. From the east approach the view in both directions is very limited on account of the steepness of the grade and the acuteness of the angle of crossing.

The Rochester road is one of the principal streets in the village of Mukwonago and passes through a thickly settled farming community between Mukwonago and Waterford. A witness estimated that from forty to fifty teams and about the same number of automobiles cross at this point during the day. Another witness estimated the vehicular traffic at from one hundred to one hundred and fifty. Fifteen school children walk along this road four times a day and about fourteen cross the tracks twice a day in rigs. A traffic count made for the Minneapolis, St. Paul and Sault Ste. Marie Railway Company from 7 a. m. December 22 to 8 a. m. December 23, 1912, shows that during those twenty-five hours fifty-one vehicles used the crossing. A

count for the village of Mukwonago for two days from 6:30 a. m. to 8:30 p. m. shows the following results:

	Automobiles	Teams	Pedestrians
May 18, 1913	51	41	87
May 19, 1913	40	31	125

A count was also made on May 26, 1913, from 7:30 p. m. to 10:30 p. m., showing 16 automobiles, 35 teams and 36 pedestrians during those three hours. Traffic observations taken by the Milwaukee Light, Heat and Traction Company for two twenty-four hour periods show the following results:

	Automobiles	Teams	Motorcycles and Bicycles	Pedestrians
August 2, 1913	50	49	1	37
August 3, 1913	81	64	9	75

One fatal accident, two serious ones, and several narrow escapes at this crossing were described by witnesses.

Front Street Crossing.

Front street runs northeast and southwest, passing under the tracks of the Minneapolis, St. Paul & Sault Ste. Marie Railway Company about three hundred feet southeast of the Rochester road crossing. The interurban line of the Milwaukee Light, Heat and Traction Company runs parallel to and southeast of Front street south of the crossing. It crosses Front street about one hundred feet southwest of the under-crossing and passes under the steam railway tracks northeast of Front street. Front street intersects the Rochester road a short distance northeast of the under-crossing.

The chief danger is from interurban cars approaching from the north under the trestle to travelers approaching on Front street from the southwest. On account of the embankment, southbound cars cannot be seen from the southwest until they are almost under the "Soo" tracks. The extreme acuteness of the angle of crossing also makes it difficult to observe cars approaching from the southwest. A witness for the interurban railway company testified that cars are necessarily operated at low speed over this crossing on account of a switch located northeast of the intersection, and a regular stop located south of it in the village.

A traffic count was made at Front street for the village of Mukwonago for two days from 6:30 a. m. to 8:30 p. m. with the following results:

	Automobiles	Teams	Pedestrians
May 18, 1913	27	36	50
May 19, 1913	13	29	53

A count was also taken on May 26, 1913, from 7:30 p. m. to 10:30 p. m., showing 3 automobiles, 12 teams and 7 pedestrians during those three hours. The results of a count made by the interurban railway company for two twenty-four hour periods are as follows:

	Automobiles	Teams	Pedestrians
August 2, 1913	17	49	17
August 3, 1913	33	45	16

A large part of the testimony was devoted to a discussion of a proposed relocation of the Rochester road, carrying it parallel to and west of the tracks of the Minneapolis, St. Paul & Sault Ste. Marie Railway Company to an intersection with Front street, using the subway at Front street for both highways. The plan contemplates the enlargement of the subway to allow for the increased traffic and to provide a better view of interurban cars from the southwest Front street approach. It appears that to carry out this proposal would eliminate the Rochester road crossing with the steam road and also the Rochester road crossing with the interurban line, leaving only the Front street crossing with the interurban line. This solution was approved of by both railway companies, but was opposed by the village authorities, for the reason that in their opinion the new road would be on a heavy grade, would be low and difficult to maintain, and would have all of the dangerous features which were pointed out with reference to the Front street crossing. The village authorities desire a subway at the Rochester road as at present laid out, which would mean a diagonal structure.

An estimate of the cost of a subway at the Rochester road was submitted at the hearings by the chief engineer of the Minneapolis, St. Paul & Sault Ste. Marie Railway Company. This estimate includes the cost of a pile bridge which would last for a number of years, the cost of a permanent subway and the cost of wrecking the temporary pile bridge at the end of its life, totaling $49,107. Of this amount the cost of the permanent subway was placed at $31,610. The Commission's engineer esti-

mates the cost of a permanent subway at the Rochester road at $33,700. The larger cost of the latter estimate is due to the fact that it includes excavations which are included in the company's estimate for the pile bridge. The cost of diverting the highway as proposed, not including the enlargement of the subway at Front street, was estimated at about $12,500 by the company's chief engineer. Objection was made to constructing a subway at the Rochester road only three hundred feet distant from the existing Front street bridge, because of its weakening effect on the tracks. The representative of the Minneapolis, St. Paul & Sault Ste. Marie Railway Company expressed the willingness of the company to bear the entire expense of the proposed relocation of the highway and the enlargement of the Front street subway.

From a careful examination of the testimony we find that each of the crossings under consideration is unusually dangerous. Having in mind the testimony and the reports of several members of our engineering staff, including our present and our former chief engineer, it is our judgment that the proposed relocation of the highway offers the best solution of the question before us. The enlargement of the Front street subway will render it ample for the traffic of both highways and will overcome the worst features of the interurban crossings at that point. It will also eliminate two dangerous grade crossings. The new road will have a better grade than the existing approaches at the Rochester road crossing, and it should be properly surfaced and maintained by the company after its construction until it is properly solidified. The company has volunteered to bear the entire expense of this relocation, but if an order were issued requiring the construction of a subway at the Rochester road, as requested by the village, the expenses would have to be apportioned between it and the company, as required by law. With these facts in mind, we believe that the interest of all concerned will be best subserved by carrying into operation the proposed plan for the relocation of the highway.

1. It is Therefore Ordered, That the Minneapolis, St. Paul & Sault Ste. Marie Railway Company construct, and maintain for a period of three years, a suitable highway southwest of its track connecting the Rochester road and Front street in the village of Mukwonago, acquire the land necessary therefor, and

enlarge the subway on its line at Front street in such a way as to provide sufficient space for the combined traffic on Front street and the Rochester road and a suitable view of approaching interurban cars, plans to be submitted to the Commission for approval.

2. IT IS FURTHER ORDERED, That upon the completion of the alterations and improvements ordered herein, the portion of the Rochester road lying within the railway right of way shall be closed; and the Minneapolis, St. Paul & Sault Ste. Marie Railway Company is hereby directed to enclose said roadway with continuous fences so that it cannot be used by the public.

Nine months is considered a reasonable period of time within which to comply with this order.

MACE LIME COMPANY
vs.
CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted March 14, 1913. Decided Nov. 14, 1913.

The petitioner alleges that certain rates on lime, granted in the case of the *Waukesha Lime & Stone Co. v. C. & N. W. R. Co.* (1913, 11 W. R. C. R. 419) for shipments from Waukesha, unduly discriminate against the petitioner, and prays that the rates for shipments of lime from Rockfield, at which point the petitioner is located, to Racine, Kenosha, and other points be made the same as the rates granted by the Commission for shipments from Waukesha to these points. The petitioner is in competition with the Waukesha Lime & Stone Co. and, prior to the issuance of the order mentioned, enjoyed the same rates to Racine, Kenosha and other points as did the Waukesha company. Except in a few instances, the distances from Waukesha and Rockfield to the points in question differ considerably. To some of these points, however, the rate under the prevailing group rate system on lime should, perhaps, be the same from both places.

Held: To more nearly equalize conditions, some adjustment of the present rates is necessary. The respondent is therefore ordered to put into effect rates prescribed by the Commission for shipments of lime in carloads from Rockfield to the stations named in the order, these rates to be subject to the same minimum weights and rules of transportation as are now in effect.

On February 8, 1913, the Mace Lime Company, a concern engaged in the manufacture of lime and crushed stone and located at Rockfield, a station on the line of the C. & N. W. Ry. in Washington county, brought a complaint against that carrier alleging that certain rates on lime made effective by the Commission's order of February 4, 1913, in the case of the *Waukesha Lime & Stone Co. v. C. & N. W. R. Co.* 11 W. R. C. R. 419, unduly discriminates against the petitioner. It is desired that the Commission grant the same rates to Racine, Kenosha, and other points as have been granted from Waukesha by the order mentioned; also that the rate from Rockfield to West Bend be made comparable with the rate for the same distance from Waukesha.

Prior to the establishment of rates ordered in the decision of the case of the Waukesha Lime & Stone Company, the petitioner enjoyed the same rates from Rockfield to Racine, Kenosha, and

other points as did the Waukesha concern. That order changed the rate to 4¼ cts. from Waukesha to Racine and 4½ cts. to Kenosha without changing the rate from Waukesha to Milwaukee. It appears that the petitioner is in competition with the Waukesha firm at Kenosha and Racine particularly, to which points approximately one-fourth of his product is shipped.

P. W. Kraemer, secretary, appeared for the Mace Lime Company, and *C. A. Vilas* for the C. & N. W. at the hearing before the Commission on March 14, 1913. Mr. Kraemer stated that should the rates remain as they are at present, his firm would be eliminated from the Racine and Kenosha markets altogether. No testimony was offered as to shipments to other points, although the petition asks for changes in the rates to other points. Following is a table comparing the distances from Waukesha and Rockfield to certain points in the state of Wisconsin, together with the former rates from Waukesha, the rates as changed by the Commission's order of February 4, 1913, and the present rates from Rockfield:

To	Waukesha.			Rockford.	
	Miles.	Former rate in cents per 100 lb.	Ordered 2—4—13	Miles.	Rate in cents per 100 lb.
Wales	8	4	3.5	48	6
Dousman	13	4	3.5	53	6
Sullivan	19	4.5	3.5	59	6
Helenville	24	5	4	65	6
Sussex	28	4.5	4	27	4.5
County Line	29	6	4	36	6
Jefferson Jct.	30	4	4	70	6
Keesus	33	4.5	4	31	4.5
Mequon	33	5	4	21	5
Granville	34	5.5	4	7	4
Lake Mills	36	5.5	4.5	77	6
Racine	37	6	4.25	44	6
Racine Jct	38	6	4.25	45	6
Rockfield	40	6	4.5	0	0
Ulao	40	6	4.5	28	5
Berryville	42	6	4.5	49	6
London	42	6	5	82	6
Pt. Washington	45	6	5	33	5
Deerfield	45	6	5.5	86	6
Jackson	46	6	4.5	5	3
Kenosha	47	6	4.5	54	6
Belgium	53	6	5.5	41	5
West Bend	53	6	5	12	4
Barton	54	6	5.5	14	4
Milwaukee	20	3½	0	21	4

It is apparent that the distances from Waukesha and Rockfield to the same points are approximately the same in a very few instances only. The specific rates from Waukesha made by the Commission are based, primarily at least, on the general distance rates on lime ordered from that point in the case of the *Waukesha Lime and Stone Company v. C. & N. W. R. Co.* and *C. M. & St. P. R. Co.* 9 W. R. C. R. 87, decided April 25, 1912. The specific rates named to points other than those south of Milwaukee were governed somewhat by group rates in force prior to the order.

The general distance rates on lime as promulgated above are based on cost figures, so that it is a natural consequence that with a substantial difference in distance there is also a difference in rate. The difference in distance between Waukesha and certain points and between Rockfield and the same points named in the table above is so great that they are not comparable. To other points where there is a more or less substantial difference in distance the rate under the prevailing group rate system on lime should, perhaps, be the same from both places. This would apply to the rates from Rockfield to West Bend, Barton, Granville, and Milwaukee, which should be 3⅓ cts., for the reason that this is the prevailing rate from Waukesha to other points where the mileage and conditions appear to be approximately the same as from Rockfield.

Full consideration of the circumstances in this case and the cases cited above makes it obvious that some of the rates complained of are not in accord either with the general group plan covering rates on lime or with the distance tariff promulgated by the Commission's order of February 4, 1913. To more nearly equalize conditions some change is necessary. As to the rates from Rockfield to other points than those named in the table below, it is not our purpose to change them at this time as they conform to the general group plan of the rates on lime or to the distance tariff as promulgated by the Commission in the *Waukesha* case.

IT IS THEREFORE ORDERED, That the respondent Chicago & North Western Railway Company discontinue charging the present rates on lime in carloads between Rockfield and the stations given below and substitute therefor the following rates, subject

to the same minimum weights and the same rules of transportation as those now in effect:

RATES ON LIME IN CARLOADS.

Between Rockfield and the following stations	Rate in cents per 100 lb.
Sussex	4
County Line	4.20
Keesus	4
Mequon	4
Granville	3⅓
Racine	4.35
Racine Junction	4.35
Ulao	4.5
Berryville	4.5
Kenosha	4.65
West Bend	3⅓
Barton	3⅓
Milwaukee	3⅓

PABST BREWING COMPANY ET AL.
vs.
CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY, CHICAGO AND NORTH WESTERN RAILWAY COMPANY, MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY.

Submitted July 17, 1913. Decided Nov. 14, 1913.

The petitioners allege that the rate of 12½ cts. per 100 lb. on beer from Milwaukee to Fond du Lac and Oshkosh is unjust, unreasonable and exorbitant. This rate is a fifth class rate applying to beer in carloads. Certain other points in Wisconsin situated similarly to Fond du Lac and Oshkosh are given a commodity rate of 10 cts. per 100 lb. on beer from Milwaukee.

Held: There is no reason apparent for refusing to grant Oshkosh and Fond du Lac the commodity rate enjoyed by other stations similarly situated. The respondents are therefore ordered to put into effect a commodity rate of 10 cts. per 100 lb., subject to the minimum weight of 30,000 lb. per car, on shipments of beer from Milwaukee to Oshkosh and Fond du Lac.

This petition, filed June 23, 1913, on behalf of the Schlitz, Pabst, Blatz, and Miller brewing companies of Milwaukee, by the respective traffic managers of each concern, alleges that the rate on beer of 12½ cts. per 100 lb. between Milwaukee and Fond du Lac and Oshkosh is unjust, unreasonable and exorbitant for the following reasons:

That the rate from Milwaukee to Manitowoc via both the C. & N. W. and the "Soo" line is 7½ cts. per 100 lb.; that the rate to Madison, Watertown, Jefferson Junction, Janesville, Beloit and Evansville is 10 cts. per 100 lb. The distances to these points from Milwaukee are in some instances greater than the distances from Milwaukee to Fond du Lac or Oshkosh. The rate to Manitowoc is a commodity rate made to compete with water carriers; but, on the other hand, the rate to Frankfort, Mich., which is a competitive point because of water transportation, is the regular fifth class rate of but 11 cts., although the distance is comparable to the distances to Fond du Lac or Oshkosh. The petitioners submit a table showing that to other stations in the state of Wisconsin from both Milwaukee and Chicago a group

rate of 10 cts. is applied on beer; but that from both Milwaukee and Chicago to Fond du Lac and Oshkosh the regular fifth class rate is applied. Believing that the rates to the last two named stations are entirely out of proportion, the petitioners ask that the rates be reduced to at least 10 cts., with a possible 9 ct. rate to Fond du Lac, should the question of distance enter into the determination.

The three carriers interested filed separate answers to the complaint, denying that the rates were unjust and exorbitant.

A hearing in the case was held on July 17, 1913, in the school board room at Milwaukee, at which *Charles Zielke* and *C. J. Bertschy* appeared for the petitioners; *C. M. Davis* for the C. M. & St. P. Ry. Co.; *R. H. Widdecombe* and *H. C. Cheyney* for the C. & N. W. Ry. Co.; and *Kenneth Taylor* for the M. St. P. & S. S. M. Ry. Co.

On behalf of the petitioners Mr. Zielke testified that the sales of beer in Oshkosh came in competition with the beer from two local breweries. These local concerns are able to sell at approximately 50 cts. per barrel and 5 cts. to 25 cts. per case cheaper than do the Milwaukee shippers and, in addition, when the customer's sales exceed 200 barrels per annum the local concerns give a rebate of 50 cts. per barrel. He was unable to state whether there was a local brewery at Fond du Lac, but was of the belief that such was the case. The rates under complaint and the competitive conditions referred to have been in existence for many years. The Milwaukee breweries are able to sell beer at Fond du Lac and Oshkosh at from $6.80 to $7.50 per barrel, according to the grade of the beer, while the value of the empty packages is about $6.25 per barrel and $3.75 per half-barrel. The wholesale selling price of beer in Milwaukee is approximately $5.00 per barrel, and the retail selling price at Oshkosh and Fond du Lac referred to are understood to include the cost of transportation, commissions and incidental expenses, so that the net amount received is somewhat less, probably around $5.00 per barrel. Eighty barrels or one hundred and sixty half-barrels constitute a carload shipment, and the Pabst and Schlitz brewing companies each ship annually between fifty or sixty carloads of beer to Oshkosh alone.

Mr. Davis, on behalf of the Chicago, Milwaukee & St. Paul Railway Company, testified that the rates under discussion were the regular fifth class rates that have been in force without

change for many years; that petitioners had done business without complaint against the rates until the past few months; that a reduction of the rates to Fond du Lac and Oshkosh would mean reduction at eleven intermediate stations between Milwaukee and Fond du Lac and twenty-four intermediate stations between Milwaukee and Oshkosh on the C. M. & St. P.; that there was no difference in the commercial conditions at Madison, Janesville, Freeport, etc.; that a 10 ct. rate at those points would not affect the price of beer at Fond du Lac and Oshkosh and that under these conditions a reduction in the rates complained of was unnecessary either from a commercial or a traffic standpoint.

Mr. Cheyney of the Chicago & North Western Railway Company stated that the objection of his railroad to establishing additional commodity rates on beer is that it discriminates in favor of Milwaukee as against small beer producing points; that the beer traffic of practically the entire state is carried on the fifth class basis; and that there has been a general request from small breweries for the establishment of commodity rates which his road has had to deny because of the necessity of putting in effect such rates elsewhere should those requested be granted.

Appearing in behalf of the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, Mr. Taylor stated that he did not believe that the rates to Fond du Lac and Oshkosh were unjust or unreasonable; that Fond du Lac was the first point in a group that extended as far as Fremont and that the rate under complaint was in line with the rates on beer generally throughout the state.

The petitioners rely wholly upon the comparisons of the rates shown in the table they submitted to show the unreasonableness of the rates to Oshkosh and Fond du Lac. On the other hand, the respondent roads do not attempt to justify the rates in any way except by stating that they have been in force for many years; that beer generally is subject to fifth class rates, and that the establishment of additional commodity rates from Milwaukee would be discriminative against small beer producing points and would result in a general demand for commodity rates from such points. Furthermore, they maintain that any change in rates to Oshkosh and Fond du Lac would involve a change in rates to a large number of intermediate points.

The table submitted by the petitioners showing the rates and distances to certain points from Milwaukee and Chicago contains some errors in mileage. We are including herewith the same table showing the correct mileages on the three lines involved in the complaint, together with the rates on beer from Chicago and Milwaukee to those points:

To	From Chicago, Ill.					From Milwaukee, Wis.				
	Distance.			Rate.		Distance.			Rate.	
	C. & N. W.	C. M. & St. P.	Soo.	Commodity.	Fifth class.	C. & N. W.	C. M. & St. P.	Soo.	Commodity.	Fifth class.
Madison	130	140	.....	10	14	82	82	.....	10	14
Watertown	130	130	.....	10	14	60	45	.....	10	11
Baraboo	167	.....	.....	15	16	119	.....	.....	.....	14
Jefferson Jct	119	.....	.....	10	14	49	.....	.....	10	10
Janesville	91	99	.....	10	13	77	71	.....	10	10
Beloit	91	97	.....	10	13	91	84	.....	10	10
Evansville	107	.....	.....	10	14	93	.....	.....	10	14
Fond du Lac	147	160	159	.....	15	62	75	66	.....	12.5
Oshkosh	165	188	177	.....	15	80	102	84	.....	12.5

The commodity rate of 10 cts. to Madison, Watertown, Janesville, Jefferson Junction, Beloit, and Evansville from both Milwaukee and Chicago, is a group rate that applies generally as a maximum rate on single line north or westbound shipments of carloads of beer between all stations on the C. & N. W. and C. M. & St. P. roads within the territory bounded by the following lines: Chicago to Milwaukee by the C. & N. W.; Milwaukee to Madison on the C. M. & St. P. via Watertown; Madison to Beloit on the C. & N. W. via Afton; and Beloit to Chicago by way of Rockford; also the line from Janesville to Dill on the C. M. & St. P. In addition the rate is locally applied jointly from the Chicago suburban stations demanding Chicago rates to all points within the territory described. The greatest distance intrastate is 115 miles, from Milwaukee to Dill, while the greatest single line distance within the territory covered by the group is 140 miles, from Chicago to Dill. This rate, insofar as Wisconsin intrastate traffic is concerned, is subject to the minimum weight provision of the western classification of 20,000 lb. on shipments of beer in wood and 26,000 lb. on other shipments.

That the carriers have generally conceded the reasonableness of transporting beer at less than fifth class rates is amply evidenced by other commodity rates which are effective. It will be noted that a commodity rate from Chicago to Baraboo is shown in the table. This is also a group rate that applies generally as a maximum in either direction between stations taking the Chicago, St. Louis, La Crosse, or Winona rates as provided in the tariff. There are several thousand of such stations on the various lines in the states of Illinois, Indiana, Iowa, Missouri, Minnesota and Wisconsin. The application of this rate in Wisconsin would include only points in the southern half of the state between which the distance is more than two hundred miles and the fifth class rate 18 cts. per 100 lb. The minimum weight in connection with this last named rate is 30,000 lb. Several other instances might be cited to show that the carriers have made special provision for the transportation of beer on lower than a fifth class basis. The prevailing minimum in these instances is 30,000 lb., which petitioners and respondents admit to be reasonable.

The reasonableness of the classification of beer in carloads as fifth class and the reasonableness of the fifth class rate in and of itself from Milwaukee to Fond du Lac and Oshkosh are not specifically attacked in this case and, therefore, need not be considered. As before noted, the complaint of the reasonableness of the rate is only as it compares with the rates to other points, mileage and conditions being approximately the same, and on this ground alone is the rate complained of shown to be out of proportion. We see no reason why the stations of Oshkosh and Fond du Lac should not enjoy the same rate as do the other stations. Why a concession for a commodity rate has been denied to Oshkosh and Fond du Lac from Milwaukee and Chicago is not apparent. The amount of traffic from Milwaukee to these points would make such a concession seem logical, as the traffic compares favorably with the traffic from Chicago and Milwaukee to other points in the territory where the commodity rates are now effective.

THEREFORE, IT IS ORDERED, That the respondent carriers discontinue charging the fifth class rate of 12½ cts. per 100 lb. on beer in carloads from Milwaukee to Fond du Lac and to Oshkosh and substitute therefor the commodity rate of 10 cts. per 100 lb., subject to the minimum weight of 30,000 lb. per car.

B. L. MARCUS ET AL.
vs.
POSTEL & SWINGLE.

Submitted July 3, 1913. Decided Nov. 14, 1913.

The complainants allege that the rates charged by the respondent for the use of its toll bridge over the Wisconsin river at Muscoda are excessive and discriminatory. A valuation was made and the revenues and expenses were investigated.

Held: A slight reduction of revenue is justified. The present rate schedule, however, shows no marked inequality, except that existing between the charge for a single trip for a double team or automobile and the ticket rates for vehicles making 10 or more trips. A reduction of the single trip rate for this class of business is, therefore, the only change which is considered advisable. The respondent is accordingly ordered to reduce the present rate of 25 cts. for a single trip for two horse teams and automobiles to 20 cts. and to retain all other rates as they are at present.

Complaint in this matter was filed with the Commission May 14, 1913. Complainants are twenty-six persons or firms of Muscoda, Wis., and vicinity. The firm of Postel & Swingle owns and operates a toll bridge across the Wisconsin river at Muscoda. The complainants allege:

1. That all of the rates, tolls, and charges of the utility are unreasonable, in that they are two high for the service rendered and produce more than is reasonably necessary for a fair return upon the investment.

2. That the tolls are discriminatory as between different classes of traffic.

3. That the tolls are discriminatory as between cash fare and ticket business.

The complaint states that the tolls are as follows:

Cash.	
Automobiles	25 cts.
Two horse vehicles	25 "
Each additional horse	10 "
Single rigs	10 "
Horse and rider	10 "
Cattle, less than 5 each	5 "
" more " "	2½ "
Hogs and sheep in droves	5 "
Pedestrians	5 "
Tickets.	
Two horse vehicle—100 trips for	$15.00
" " 50 "	8.00
" " 25 "	4.25
" " 10 "	1.90

Mail carriers and stage drivers pay 12½ cts. per trip. All of these are round trip rates, except in the case of animals in droves.

Certain corrections of the above schedule, which were introduced at the hearing, will be considered later.

Hearing in this matter was held at Madison, July 3, 1913. Appearances were: For complainants, *John J. Blaine;* for respondent, *F. W. Burnham.*

The testimony related principally to the manner in which the bridge was constructed and to various matters concerned with its operation and maintenance, all of which have been carefully considered in connection with the decision in this case.

Rates as stated in the complaint appear to be correct, except that the charge for hogs and sheep in droves of from 5 to 500 is 2 cts. each, and in droves of over 500, 1 cent each.

Mail carriers and stage drivers are placed on a yearly contract basis.

There are two matters to be considered in the present proceeding. First, is the total revenue of the utility unnecessarily or unreasonably high, and second, are the tolls discriminatory?

A valuation of the property to be considered in this case has been made by the Commission as of July 30, 1913. This valuation shows the cost new to be $31,225, and the present value $19,892. No complete records of the cost of the bridge have been kept, but the estimate of owners places the value of the bridge at approximately $26,000.

The following table, showing the receipts and expenditures for operation and maintenance of the utility, has been compiled from the cash book submitted at the hearing. A period covering 5½ years, from January 1, 1908, to June 30, 1913, has been deemed of sufficient length to show the trend of the earnings and expenses in recent years. Some difficulty arose in distributing items common to both construction and maintenance because of the meager information furnished by cash book entries, but this has been partly adjusted with substantial accuracy.

One item, "Miscellaneous", calls for explanation. The charges to this account are almost without exception donations to local "Fourth of July" and "Booster Week" committees.

RECEIPTS AND EXPENDITURES.

MUSCODA TOLL BRIDGE.

	1908.	1909.	1910.	1911.	1912.	1913.
EARNINGS	$3,565 35	$3,286 28	$3,502 43	$3,393 29	$3,716 74	$1,574 25
EXPENSES.						
Bridge tender's salary	$300 75	$300 60	$300 00	$360 00	$360 00	$180 00
Operation of bridge	49 45	64 05	52 36	70 07	70 05	41 00
Maintenance of bridge	64 68	69 94	57 25	121 88	141 55	60 00
Miscellaneous	10 00	14 00	44 00	21 10	35 50	10 00
Taxes	278 67	257 73	266 46	278 26	254 27	3 01
Insurance	7 20					
Total operating expenses	$710 75	$705 72	$720 07	$851 31	$861 37	*$294 01
NET EARNINGS	$2,854 60	$2,580 56	$2,782 36	$2,541 98	$2,855 37	$1,280 2

*Covers 6 months period from January 1, 1913, to June 30, 1913.

From this it appears that net earnings have ranged from a little over $2,500 to something over $2,800 during the period shown, but the cash book apparently does not show the revenues from mail teams and stages, on a yearly contract basis. This would apparently be about $150 per year.

Considerable emphasis was laid, in the testimony introduced on behalf of the utility, on the irregularity with which maintenance expenses must be met. In view of all available facts it does not appear that the average net return over a long period of years would be more than $2,600 per year.

No provision appears to have been made in the expenses recorded for a salary to the member of the firm who is in active charge of the bridge, although the testimony shows that a considerable part of his time is devoted to supervision of the utility. Considering the investment in the property, the volume of business and the risks to which the investment is exposed, together with the actual time spent by this member of the firm upon business of the utility, it appears that allowance should be made for a reasonable salary for this supervision. This is a practice which is considered reasonable in the case of other classes of utilities and there seems to be no reason why it should not be followed in this case.

With such provision made for supervision, the average annual amount available to provide for depreciation and interest would not be much in excess of $2,200.

The composite life of the property is estimated at thirty-five years. Adequate allowance for depreciation will not be less than $600 per year, and if allowance is made for contingencies and losses due to extraordinary causes, $600 appears to be a very conservative figure.

The average amount available for interest and profit, therefore, is about $1,600 per year if allowance is made in operating expenses for the salary of the member of the firm who is in active charge of the bridge, and not over $2,000 per year even with no allowance for such salary.

A reasonable value for the purposes of this case appears to be about $22,000, including whatever allowance should be made for working capital and going value.

The rates of return which these amounts would yield upon different valuations of the property are shown below:

	Cost new.	Present value.	Estimated value.
	$31,225	$19,892	$22,000
$1,600 return	5.1%	8.1%	7.3%
2,000 "	6.4%	10.1%	9.1%

Although the return of 7.3 per cent on a valuation of $22,000 can hardly be considered excessive, it must be remembered that the amount available for return on investment is partly a matter of estimate and it is believed that the estimates are sufficiently conservative to justify a slight reduction of revenue. An examination of the rate schedule does not show any marked discrepancy except that existing between the charge for a single trip for a double team or automobile and the ticket rates, and a reduction of the single trip rate for this class of business is the only change which is considered advisable. The scale of prices for tickets of different denominations does not appear unreasonably adjusted. The rates for stage drivers and mail carriers are fixed on a yearly contract basis. If the utility holds itself in readiness to make similar contracts with all parties requiring similar service there is no unjust discrimination in the application of this portion of the rate.

A reduction of the single trip rate, as indicated above, to 20 cts. on the basis of the available facts relating to the volume of this traffic, would apparently effect an annual reduction of revenue of about $250 per year, part of which may be made up by additional business. The total reduction does not appear unreasonable.

IT IS THEREFORE ORDERED, That the respondents, Postel & Swingle, owners and operators of the toll bridge referred to, shall discontinue their present rate of 25 cts. for two-horse teams and automobiles for a single trip and substitute therefor a rate of 20 cts.

IT IS FURTHER ORDERED, That all other rates remain as at present.

This order shall take effect and be in force on and after December 1, 1913.

IN RE APPLICATION OF THE NESHKORO LIGHT AND POWER COMPANY FOR AUTHORITY TO INCREASE RATES.

Decided Nov. 14, 1913.

The Neshkoro Lt. & P. Co. applies for authority to increase its rates for electric service in Neshkoro, Lohrville and Red Granite. A valuation was made and the revenues and expenses were investigated. The records of the utility have been improperly kept and it is therefore necessary to estimate normal and reasonable costs on the basis of the record information available and data obtained with respect to the operation of similar plants. The expenses thus estimated were apportioned between capacity and output expenses and further apportioned among street lighting, commercial lighting, and power expenses.

The smallness of the plant cannot be accepted as an excuse for keeping lax operating and accounting records. An accounting system such as the Commission is now installing in other plants should be introduced, as in this way only can expenditures be properly classified and apportioned.

In order to arrive at a schedule of reasonable rates, a basis of normal and reasonable costs must be established. In the present case the probable cost of generating electricity at a steam plant furnishing current under conditions similar to those existing in Neshkoro was investigated and it was found that the operating costs would be no lower if steam were substituted for the hydraulic generation now used. The applicant's costs under hydraulic operation are therefore used, with data secured from other sources, as the basis for the determination of the rates ordered.

A straight meter rate can be satisfactory only when all consumers have about the same demand or installation and use the current about the same length of time each day.

The Public Utilities Law (sec. 1797m—90) provides that a public utility shall not give a lower rate to a consumer who owns his meter than to another consumer whose meter is owned by the utility. This means that public utilities, unless excused by the Commission, must acquire by purchase or lease all meters used by them but not now owned by them and cease charging meter rentals to consumers who do not supply their own meters.

To adhere closely to the table of costs is not always advisable. In some cases it may be profitable to retain short hour users of electric current, who could not otherwise be retained, at less than the full cost of the service, provided these consumers are charged rates which cover a part at least of the overhead charges and thus lighten the burden of expense to other consumers, and provided that the rates charged do not result in unjust discriminations.

Held: In the absence of definite information, due to the applicant's failure to keep such a system of accounts as is required by the Public Utilities Law, it is impossible to reach final conclusions at this time. If experience shows that some of the conclusions

tentatively reached in the present case should be altered, modifications can be made when necessary. The applicant is therefore authorized to put into effect rate schedules fixed by the Commission at such time as the applicant shall have adopted and installed a system of accounts in accordance with the Commission's classification.

This is an application by the Neshkoro Light and Power Co. for authority to increase its rates for electric service in Neshkoro, Lohrville and Red Granite.

A hearing in the case was set, but as no appearances were made either for the applicant or in opposition, no testimony was taken and the case was submitted on the application and the facts ascertained in the investigation made by the Commission.

The lawful rates of the applicant, as filed with the Commission, are at present as follows:

Commercial Lighting and Power Rates:

Meter rates:

1st 100 kw-hr. per month 10 cts. per kw-hr.

All over 100 kw-hr. per month 5 cts. per kw-hr.

Discount 2 cts. per kw-hr. on first 100 kw-hr. if paid by the 15th of the month.

Meter rent 25 cts.

Street lighting:

22 a. c., enclosed multiple 6 amp. 110 v. arcs. $60 per lamp per year.

40 100-watt tungsten (series system) $15 per lamp per year. Operated on moonlight schedule.

The rates given for street lighting, it now appears, are incorrect.

At the time of the investigation the following lamps were in use.

Neshkoro, 7 400-watt tungstens.....$300.00 per year
Neshkoro, 2 60-watt tungstens.....$24.00 per year
Red Granite, 40 250-watt tungstens.....$1200.00 per year
Lohrville, 40 100-watt tungstens.....$600.00 per year

The greater percentage of consumers are at present on a flat rate basis.

The plant of the Neshkoro Light and Power Company is situated on the Lunch river at Neshkoro. The hydraulic power available is used jointly by the Light and Power Company and the Neshkoro Milling Company, the latter company owning the water power site, flowage lands, dam, spillway, head race, wheel

pits, tail race, and power plant buildings. The Neshkoro Light and Power Co. transmits current to Lohrville and Red Granite, a distance of about nine miles from Neshkoro, and is at present taking steps to construct an additional transmission line to Wautoma.

The company keeps part of its books and records at Princeton, and part at Red Granite, at which place it has a material and supply department.

Section 1797m—90 of the Public Utilities Law reads in part as follows:

"It shall be unlawful for any public utility to demand, charge, collect or receive from any person, firm or corporation, less compensation for any service rendered or to be rendered by said public utility in consideration of the furnishing by said person, firm or corporation of any part of the facilities incident thereto; provided nothing herein shall be construed as prohibiting any public utility from renting any facilities incident to the production, transmission, delivery or furnishing of heat, light, water or power or the conveyance of telephone messages and paying a reasonable rental therefor."

The Commission has repeatedly had occassion to refer to this provision of the law. It is clear that under this provision a company cannot give a lower rate to a consumer who owns his meter than to another consumer whose meter is owned by the company. That the divided ownership of parts of the equipment of public utilities shall cease is clearly contemplated. The management should be responsible for the installation and maintenance of the whole of the equipment, which means undoubtedly that both private and municipal plants must acquire, by purchase or lease unless excused by the Commission, all meters used in connection with their respective works, and cease charging a meter rental.

The application of the company is for the establishment of a rate of 10 cts. net per kw-hr. straight meter rate. A straight meter rate can be satisfactory only when all the consumers have about the same demand or installation and use the current about the same length of time each day. To determine equitable rates it will be necessary to examine the income accounts of the utility for past years and to ascertain the value of the property. The following table shows the summary of the engineer's ap-

praisal of the physical property of the Neshkoro Light and Power Company:

VALUATION AS OF JUNE 1, 1913.

	Cost new.	Present value.
A. Land	$11,889	$8,904
B. Transmission and distribution		
C. Buildings and miscellaneous structures	4,350	4,056
D. Plant equipment	118	63
E. General equipment		
Total	$16,357	$13,023
Add 12 per cent (see note below)	1,963	1,563
Total	$18,320	$14,586
F. Paving		
Total	$18,320	$14,586
H. Materials and supplies	927	676
Total	$19,247	$15,262
J. Non-operating	3,866	966
Total	$23,113	$16,228

NOTE:—Addition of 12 per cent to cover engineering, superintendence, interest during construction, contingencies, etc.

An examination of the reports of the utility to the Commission must be made to determine whether the present net earnings of the plant are assured; whether they are high enough to warrant keeping the rates as low as at present and whether the net earnings for some of the more recent years have exceeded the average net earnings for the entire period considered. Where clear and logical reports are available for examination, these points may be determined with ease and accuracy.

From a review of the reports submitted to the Commission it is evident that the expense accounts have not been kept in such form as to be clear in an investigation of this kind. It is therefore necessary to examine the accounts closely to determine equitable cost from the limited data available. The following table summarizes the operating expenses for the year ended June 30, 1912:

DETAILED INCOME ACCOUNT

NESHKORO LIGHT AND POWER CO.,

Year ended Jan. 30, 1912.

OPERATING REVENUES:	
Commercial lighting earnings	$4,803.27
Municipal lighting earnings	1,338.64
Commercial power earnings	887.50
Total	$7,029.41
OPERATING EXPENSES:	
Power	.....
Distribution	
Distribution system labor	$900.00
Maintenance of meters	100.00
Total	$1,000.00
Consumption—Lamp supplies	$286.65
Commercial	.....
General:	
General office salaries	$120.00
General office supplies and expenses	25.00
Maint. genl. off. equip. bldgs. and grds	2,760.45
Total	$2,905.45
Undistributed	.....
Total above expenses	$4,192.10
Depreciation	$3,000.00
Contingencies—Bad debts	1,480.42
Taxes	133.33
Total	$4,613.75
Total operating expenses	$8,805.85
Deficit	$1,776.44
Interest on funded debt	139.50
Dividends	780.00
Deficit for year	$2,695.94

There are many items in the above statement that are not clear. The Neshkoro Light and Power Company generates current by hydraulic power, which it rents from the Neshkoro Milling Company on a flat rate which is at present $100 per month. It was stated by the company that this charge was to be increased to $150 per month on July 1, 1913. The item "Maint. of general office equipment, buildings and grounds" amounting to $2,760.45, should, it appears, be divided as follows:

Hydraulic power purchased	$1,200.00
Genl. office salaries (manager)	600.00
R. R. fare, tel., teleg., and exps. on road, etc	180.00
Lighting arresters, trans., and exps	780.45
	$2,760.45

That a part of the item $780.45 consists of either construction or extraordinary maintenance, appears plain.

The item "Depreciation," $3,000.00, shown in the income account, is altogether too high for a single year. This appears to be a charge to offset all depreciation on the plant since the beginning of operation, as reports for previous years show no depreciation charge.

The following table shows the comparative income accounts for the years ended June 30, 1910, 1911, 1912, and 1913. The income account for 1912 has been reapportioned, on the basis of the data available, to correspond more closely to the accounts of the previous years.

COMPARATIVE STATEMENT OF OPERATING EXPENSES AS REPORTED TO THE COMMISSION.

NESHKORO LIGHT AND POWER CO.

	Year ended June 30,			
	1910	1911	1912	1913
OPERATING REVENUES				
Commercial	$4,842 92	$4,984 93	$4,803 27	$4,606 69
Municipal	1,280 20	1,586 00	1,338 64	1,700 06
Power	360 00	987 50	887 50	474 33
Total	$6,483 12	$7,558 43	$7,029 41	$6,781 08
OPERATING EXPENSES				
Power				
Hydraulic generation				
Operating labor	$800 00	$900 00	$900 00	.....
Hydraulic power purchased	1,200 00	1,200 00	1,200 00	.....
Miscellaneous	.....	.....	180 00	.....
Maint. hydraulic power works	605 54	210 00	137 13	.....
Total	$2,605 54	$2,310 00	$2,417 13	$6,626 19
Transmission and Transformation Total	.....	.....	.....	$75 87
Distribution				
Distribution system, labor	.....	.....	$600 00	.....
" " supplies and expenses	.....	.....	.....	.....
Maint. distribution system	.....	.....	.....	.....
Maint. meters	.....	.....	100 00	.....
Total	.....	.....	$700 00	$22 60
Consumption				
Commercial				
Trimming and inspecting lamps	.....	.....	.....	.....
Lamp supplies	.....	.....	$286 65	.....
Customers premises expenses	.....	.....	.....	.....
Miscellaneous	$198 26	.....	.....	.....
Maintenance	.....	.....	.....	.....
Total commercial consumption	$198 26	.....	$286 65	.....
Municipal contract lighting				
Trimming and inspecting mun. lamps	$120 00	$120 00	.....	.....
Mun. contract lamp supplies and incandescent lamps	28 00	87 00	.....	.....
Miscellaneous	.....	.....	.....	.....
Maintenance	.....	.....	.....	.....
Total municipal	$148 00	$207 00	.....	.....
Total consumption	$346 26	$207 00	$286 65	.....
Commercial				
Collection expenses	$41 00	$300 00	.....	$300 00
Total direct	$2,992 80	$2,817 00	$3,403 78	$7,024 66
General				
General office salaries	$120 00	$120 00	$120 00	.....
" " supplies and expenses	25 00	25 00	25 00	.....
Total	$145 00	$145 00	$145 00	$900 00
Undistributed				
Injuries and damages	.....	$552 10	.....	.....
Insurance	$30 00	30 00	.....	.....
Stationery and printing	25 00	25 00	.....	.....
Miscellaneous	.....	.....	.....	.....
Total	$55 00	$607 10	.....	$86 11
Total above expenses	$2,192 80	$3,569 10	$3,548 78	$8,010 77
Taxes	64 77	13 12	133 33	219 56
Grand total	$3,257 57	$3,582 22	$3,682 11	$8,230 33
Book value	$17,000 00	$20,661 00	$23,320 00	.....
Amount available for depreciation and interest	$3,225 55	$3,976 21	$3,347 30	.....
Rate return on book value	19%	19.2%	14.3%	.....

The foregoing statement shows a remarkable uniformity in the expenses from year to year of certain items, which would indicate an arbitrary apportionment of many of the amounts listed. With the expenses as shown, it is noted that there is available for depreciation and interest an amount each year large enough to allow a sustantial return for these items, amounting to 19 per cent on the book value of the plant in 1910, 19.2 per cent in 1911 and 14.3 per cent in 1912.

From an examination of the 1913 report, it appears that the item "Hydraulic power generation," amounting to $6,626.19, contains certain expenditures properly chargeable to plant instead of operation. Until the utility keeps the cost of renewals, replacement and new construction separate from operating expenses, it will be impossible to determine the exact needs of the company in the way of revenue. The company has paid dividends, it appears, but has not provided for depreciation. At any rate, the explanations of the conditions which exist are so clouded and the situation with respect to obtaining correct financial statements so questionable that it seems inadvisable to pass upon the questions involved until these matters have been cleared up.

When the abnormal and incorrect items are deducted from the income account for the year ended June 30, 1913, a financial condition is revealed which would indicate that, unless the charge for "Hydraulic power purchased" is increased from $1,200 to $1,800 per year as contemplated, no general increase in rates will be needed.

It is possible that some of the different classes of service supplied by the utility are not yielding enough revenue to pay the cost of such service. In view of these facts as careful an investigation has been made as was possible under the circumstances.

Normal Operating Costs.

In order to arrive at a schedule of reasonable rates, a basis of normal and reasonable costs must be established. It is not enough merely to take an average of expenses for a given period, but expenses must be obtained in detail for a sufficiently long period, and the details must be studied and analyzed and compared with the costs of similar plants. When such analyses and comparisons are properly made, the results are of marked value as indi-

cating what are normal costs and the extent to which these costs are influenced by conditions peculiar to the locality.

In this case it has seemed advisable to investigate the probable cost of generation by a steam plant furnishing current under conditions similar to those existing in Neshkoro. The investigation made shows that, under the conditions existing here, advantage of lower operating costs would not be gained by substitution of steam for hydraulic generation. The interests of the consumers will not be adversely affected, therefore, if the applicant's expenses of hydraulic operation are used as a basis for the determination of rates. Although the data secured from the records of the utility are rather meager, other circumstances have made it possible to construct an income account, as shown below, which is believed to be fairly representative of the facts.

INCOME ACCOUNT

NESHKORO LIGHT AND POWER COMPANY.

Year ended May 31, 1913.[1]

OPERATING EXPENSES	
Power—Hydraulic generation	
Operating labor	$900.00
Hydraulic power purchased	[2]1,800.00
Misc. pr. plant sups. and exps	18.92
Maint. hyd. pr. wks. bldgs. fixts. grounds	75.91
Total	$2,794.83
Transmission and transformation	
Operation of transmission and transformation system	$68.60
Maintenance	31.90
Total	$100.50
Distribution	
Distribution system labor	$134.65
" " supplies and expenses	55.08
Maint. of dist. system	36.07
Maint. meters	16.87
Total	$242.67
Consumption	
Trimming and inspecting lamps	$107.00
Lamp supplies	260.79
Misc.	84.02
Maint.	25.00
Total	$476.81

[1] Based on data obtained from books of company.

[2] Company is to pay $150 per month from July 1, 1913, hence above amount has been used in all computations.

Commercial	
Total	$60.00
Total direct expenses	$3,674.81
General	960.31
Undistributed	34.69
Total above expenses	$4,669.81
Taxes	$133.33
Depreciation (5% on $23,113)	1,155.65
Interest (8% on $16,228)	1,298.24
Total above items	$2,587.22
Grand total	$7,257.03

The Commission has discussed fully in previous decisions the importance of the separation of operating expenses into capacity and output cost and this subject, therefore, will not be taken up here.

Of the total expenses, amounting to $7,257.03, it was found that an apportionment between capacity and output resulted in a charge of 65.5 per cent or $4,754.70 to capacity, and 34.5 per cent or $2,502.33 to output.

Electric service is being furnished by the petitioner to three classes of consumers, viz: commercial lighting, street lighting, and power. That each of these branches of service should be charged, as far as practicable, with the expenses for which it is responsible, is obvious.

Operating Statistics.

The smallness of the plant cannot be accepted as an excuse for keeping lax operating and accounting records. Some definite procedure should be adopted. The plan of operating without station records or meters results in a lack of reliable data on the output, demand or costs of generation and must be condemned. The applicant, however, has announced its intention of securing a station meter when the larger generator which is to be installed has been placed. With a station meter and simple station records, not only will reliable data be secured as to the amount of current actually produced, the peak load, etc., but the utility can also determine with more accuracy the actual cost per unit. The present location of the accounting department might well be changed so that the books would be kept at the plant. An ac-

counting system, such as the Commission is now installing in other plants, and designed to meet the needs of the local plant, should be introduced at Neshkoro. In this way only can expenditures be classified properly and apportioned to the proper accounts.

It appears that there are about 32 active consumers in Lohrville, 110 in Red Granite and 32 in Neshkoro. Of these consumers 7 in Lohrville and 53 in Red Granite are on a meter basis. 84 meters are stated as being in use, but it appears that because of a strike in the quarries a great many people have left and discontinued the light service. The balance of about 111 consumers are on a flat rate basis.

Because of the fact that the utility has no records showing the division of the peak demand among the different services which the plant supplies, it has been necessary to divide the demand upon the basis of the most reliable information which could be obtained from the company's operating experience.

No generation statistics are reported as the company had no station meter at the time of this investigation. For this reason it has been necessary to estimate the kilowatt hours delivered at the switchboard and the kilowatt hours sold and accounted for. The amounts given were ascertained partly from records of the metered portion of the output, and partly from estimates based upon other data available.

In order that each branch of service shall be charged with the expenses which it causes, an apportionment of the capacity and output expenses over these classes of service has been made. The basis of this apportionment is the same as has been followed in other cases which have been before the Commission and will not be discussed here. The result of this apportionment is as follows:

	Total.	Capacity.	Output.
Street lighting	$2,113 18	$1,113 39	$999 79
Commercial lighting	4,607 07	3,276 26	1,330 81
Power	536 78	365 05	171 73
Total	$7,257 03	$4,754 70	$2,502 33

It might be said here that it is possible that some of these classes of service are not yielding enough revenue to pay the cost

of the service. If this is the case, it would seem that the rates for these classes might be raised and rates which are yielding more than the cost of service might be correspondingly lowered, but until the records of the utility are so kept as to furnish a more accurate basis of determining the cost of each class of service, any entirely correct readjustment of rates as among different classes is impossible.

When the commercial lighting expenses shown in the preceding table are apportioned over the demand and output, the unit costs of operation are obtained. The capacity cost for commercial lighting is $45.44 per kw. per year, or 12.4 cts. per day; the output cost is 1.8 cts. per kw-hr.; and the resulting cost curve is as follows:

Hours use per day.	Capacity cost, cts.	Output cost, cts.	Total cost, cts. per kw-hr
1	12.40	1.8	14.20
2	6.20	1.8	8.00
3	4.10	1.8	5.90
4	3.10	1.8	4.90
5	2.50	1.8	4.30
6	2.06	1.8	3.86
7	1.03	1.8	2.83
8	0.69	1.8	2.49

A rate approximating the above cost curve would be somewhat as follows: 9 cts. net per kw-hr. for the first 60 kw-hr. used per month per kw. of active load; 7 cts. net per kw-hr. for the next 40 kw-hr. used per month per kw. of active load, and 4 cts. net per kw-hr. for all current used in excess of 100 kw-hr. per month per kw. of active load. As noted later, some reduction is equitable for current sold in Neshkoro as no transmission and transformation expenses can be charged to this business.

To adhere closely to the table of costs is not always advisable. The reason for distributing the fixed cost over the three steps, in the present case as well as in many other instances, contrary to the cost curve, and thus charging the short hour user less than his pro rata share, is that there are a great many short hour users who cannot be made to contribute the full amount of this share. These consumers are profitable, however, when they help bear a part at least of the overhead charges, and, even though they do not carry their full share, thus lighten the load to the other consumers.

Street lighting expenses have been reapportioned to the various communities supplied with street lighting. The cost per tungsten lamp of 400 watts rating per year in Neshkoro was found to be $35.75. For 250-watt tungsten lamps burning on a 2,200 hour schedule at either Red Granite or Wautoma, a cost of $22.40 was obtained. For 100-watt tungstens as installed in Lohrville, the cost was found to be about $9.00. In view of these costs the street lighting rates do not appear excessive.

The power service is somewhat intermittent. The total gross earnings from this service do not appear much higher than they should be. The Commission has pointed out in many cases the advantages of a power load, so that further comment here is superfluous. All that need be said here is that off-peak long-hour power business which, for competitive and other reasons, cannot be had on better terms, might be accepted at less than the regular rates, provided, of course, that the yield therefrom leaves something for fixed charges and, provided further, that it can be so taken without unjust discrimination. For various reasons it is customary everywhere to grant much lower rates for power than lighting. In view of these facts the following schedule suggests itself as reasonable for power service:

$1.25 net per active h. p. of capacity plus 4 cts. per kw-hr.

The determination of the effect of the proposed schedule upon sales and change in revenues is extremely difficult in the absence of more record information. Under a system of flat rates the amount to be paid depends almost wholly upon the fixtures and not upon the amount of current used. It is the duty of the utility, the Commission has ruled, to sell to all consumers through meters unless exempted from so doing by the Commission. When the utility has completed the installation of meters the situation may be such that a review of the facts may necessitate further adjustments.

It has been mentioned before that, owing to the lack of definite information at almost all points of this investigation and the necessity of making estimates, it is by no means certain that the conclusions reached are in all respects accurate. When the applicant can present to the Commission such information as the Public Utilities Law requires it to have available so that a careful analysis of actual instead of estimated operating conditions can be made, some definite conclusion can be reached. Account-

ing systems prescribed by this Commission for utilities have been in use throughout the state for over two years. Why the applicant should not from this time forth keep its accounts as required by law, and as accounts are kept by electric companies throughout the state, is not clear. The Commission is now and has been rendering accounting assistance to utilities requiring such assistance and, if requested, will give similar assistance to the applicant in the present proceeding.

The findings and order in this case are chiefly based upon such reports and other facts as could be obtained from the applicant. If experience shows that some of the conclusions reached should be altered, modifications can be made when necessary.

NOW, THEREFORE, THE APPLICANT, the Neshkoro Light and Power Company, IS HEREBY AUTHORIZED to discontinue its present schedule of rates and charges for electric light and power service, and to place in effect, as a substitute therefor, the following rate schedules deemed just and reasonable, as provided under ch. 499, sec. 1797m—46, laws of 1907:

SCHEDULE OF RATES FOR INCANDESCENT LIGHTING SERVICE.

For all lighting service furnished residences and businesses hereinafter specifically referred to as classes A, B, C, etc., and passing through the same meter and measured by a meter or meters owned and installed by the company. This lighting service will include: electric energy furnished for lamps and other appliances utilized for illumination purposes; motors and appliances other than lighting equipment, when motors are of 1 h. p. rated capacity or less.

Primary rate: 9 cts. net or 10 cts. gross per kilowatt hour for current used equivalent to or less than the first 60 kilowatt hours used per month per active kilowatt.

Secondary rate: 7 cts. net or 8 cts. gross per kilowatt hour for additional current used equivalent to or less than the next 40 kilowatt hours used per month per active kilowatt.

Excess rate: 4 cts. net or 5 cts. gross per kilowatt hour for all current used in excess of the above 100 kilowatt hours used per month per active kilowatt.

The active load in kilowatts shall in every case be a fixed percentage of the connected load in lamps installed upon consumers' premises.

Class A. Residences, dwellings, flats and private rooming houses. When the total connected load is equal to or less than 500 watts nominal rated capacity, 60 per cent of such total connected load shall be deemed active. When the installation exceeds 500 watts nominal rated capacity, 33⅓ per cent of such part of the total connected load over and above 500 watts shall be deemed active.

Class B. When the total connected load is equal to or less than 2½ kilowatts nominal rated capacity, 70 per cent of such total connected load shall be deemed active. When the installation exceeds 2½ kilowatts nominal rated capacity, 55 per cent of such part of the total connected load over and above 2½ kilowatts shall be deemed active; provided that lamps used exclusively in space devoted to the storing of goods shall be placed at 20 per cent active and shall not be included in the 2½ kilowatts specified above.

Class B shall consist of banks, offices, business and professional (including studios, dressmaking parlors, massage parlors, millinery and hair dressing establishments, and photograph galleries), wholesale and retail merchandise establishments, such as bakeries, barber shops and stores of all kinds, saloons (including pool and billiard halls and adjoining card rooms), theaters, dance and public halls, restaurants, depots and public places for the conduct of railroad, express and telephone business (excluding freight warehouses) and all other consumers not herein otherwise specifically provided for.

Class C. 55 per cent of the total connected load shall be deemed active. Such class shall consist of federal and county buildings; churches and missions, hotels and clubs; factories (including small industrial establishments such as machine shops, carpenter shops, blacksmith shops, tin shops and cigar factories), closing not later than 6 p. m., private and parochial schools, grain and stone elevators and warehouses, freight and storage warehouses, stables and garages, both private, boarding and livery, and all interior lighting for the villages of Neshkoro, Red Granite, Lohrville and Wautoma, including schools, police and fire stations, libraries, hospitals and other city or village buildings.

Class D. The total connected load shall be deemed active. Such class shall consist of unmetered lighting for signs, outlines and windows, contracted for upon a yearly basis.

The minimum bill for general commercial and residence lighting shall consist of a charge of $1.00 net per month for 1,000 watts or less of connected load, plus 5 cts. for each additional 50 watts of connected load.

POWER.

This service will include electric energy utilized for motor and miscellaneous lighting service, where the demand arising from such miscellaneous lighting service shall not be in excess of 20 per cent of the total simultaneous demand for lighting and power service. Stereopticons, moving picture machines, photographer's arcs and rectifiers shall be billed at the power rate when separately metered from the lighting.

For current used for electric power purposes, as measured by meters owned and installed by the company, a maximum charge of $1.25 net per active horse power capacity per month, plus 4 cts. net or 5 cts. gross per kilowatt hour. Active horse power shall consist of a fixed percentage of the nominal rated capacity of motor as indicated on the manufacturer's name plate.

The following percentage of such capacity shall be deemed active:

The first 10 h. p. installed.....90 per cent.
The next 20 h. p. installed.....75 per cent.
The next 30 h. p. installed.....60 per cent.
All over 60 h. p. installed.....50 per cent.

Minimum bill shall be $2.50 net per month.

DISCOUNT.

Lighting and power.

The company shall bill all consumers at the gross rate and the difference between the gross and net rates, or one cent per kilowatt hour, shall constitute a discount for prompt payment. Fifteen days from date of bill is considered as the limit of time discount privilege is effective.

MUNICIPAL LIGHTING CONTRACT.

Neshkoro:

For 400-watt tungsten lamps operated on a moonlight schedule $43 per lamp per year.

For 60-watt tungsten lamps, same burning schedule as above, $12.00 per lamp per year.

Red Granite or Wautoma:

For 250-watt tungsten lamps burning on a moonlight schedule, $30.00 per lamp per year.

Lohrville:

For 100-watt tungsten lamps burning on a moonlight schedule, $15.00 per lamp per year.

All consumers shall be placed upon a meter basis; a canvass shall be made of the connected load upon the installation of each meter; and all bills rendered by the company to the electrical consumer shall state plainly the connected load of each consumer and the percentage which is considered active in computing the rate.

These rates shall not be put in effect until the utility shall have adopted and installed a system of accounts in accordance with the Commission's classification.

CITY OF FORT ATKINSON
vs.
CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted Sept. 11, 1913. Decided Nov. 14, 1913.

The petitioner alleges that three highway crossings on the C. & N. W. Ry. in the city of Ft. Atkinson are dangerous.

Held: The crossings require further protection. The respondent is ordered: (1) to station a flagman, to be on duty from 7 a. m. to 8 p. m., or until such time as the last passenger train has gone by, at each of the two crossings located respectively at Madison ave. West, and Sherman ave. West; (2) to install and maintain at each of these crossings and at the crossing at South Fifth st. an electric bell with illuminated sign; and (3) to install annunciators at Madison ave. West, and Sherman ave. West. Plans for track circuits are to be submitted to the Commission for approval.

If the rule requiring trainmen to flag all train movements at the South Fifth st. crossing is not rigidly enforced the Commission will modify the present order to require the respondent to station a flagman at this crossing also.

The petitioner, a municipality in Jefferson county, alleges in substance that three highway crossings in the city of Fort Atkinson, located on the line of the Chicago & North Western Railway Company at Madison avenue West, Sherman avenue West and South Fifth street, are dangerous to public travel. It is alleged that no protection is provided at South Fifth street and that the safety devices now installed at Madison avenue West and Sherman avenue West are imperfect, inadequate and out of repair. The Commission is therefore asked to require the respondent to provide adequate protection at these crossings.

The respondent, in its answer, alleges that the gates at Madison avenue West and Sherman avenue West have been thoroughly repaired and are now properly adjusted and in first class working condition. It further alleges that trains are now flagged over the South Fifth street crossing by trainmen and that in view of the light amount of travel no additional protection is necessary. It therefore asks that the petition be dismissed.

A hearing was held at Fort Atkinson on September 11, 1913.

A. L. Stengel appeared for the petitioner and *C. A. Vilas* for the respondent.

The representative of the respondent at the bearing admitted that each of the crossings under consideration is dangerous, and the only question for consideration is whether the protection now provided is adequate.

Sherman Avenue and Madison Avenue Crossings.

It appears from the testimony that Madison avenue and Sherman avenue are located about 550 feet apart. Gates are installed at each crossing, but they are controlled by a single operator from a tower about 350 feet from Sherman avenue and 200 feet from Madison avenue. These gates were installed subsequent to the issuance of an order of the common council in 1895. A good view of trains in both directions may be had from the gateman's tower, but westbound traffic on Sherman avenue and eastbound traffic on Madison avenue is not visible from that point. At Sherman avenue there is a sidetrack about 90 feet east of the main track which is not included between the gates. Witnesses for the city testified that the gates do not operate satisfactorily. Numerous specific instances were cited of times when the gates had failed to work properly. It was said that the gate-arms do not move together, which causes confusion in the mind of travelers. One arm will sometimes fall fifteen seconds later than the other. The gates are very slow in their movement, taking about thirty seconds for raising or lowering. Instances were mentioned of trains passing when the gates were up, and it was said that often one arm lowers only a part of the way. The mayor and another witness testified that on a number of occasions they had found the gates down at night when no trains were passing, and had personally gone to the tower and raised them. It was also stated that the gateman had been found asleep in the tower. Both Sherman avenue and Madison avenue are important city streets and carry a large amount of traffic. One witness estimated that several hundred school children cross at Madison avenue. There are four regular passenger trains and four regular freight trains in each direction operated over these crossings. Trains run about six miles an hour southbound and about twelve miles an hour northbound.

The company's superintendent stated that in his opinion the existing gates can be repaired and operated in a satisfactory

manner. He objected to stationing a gateman at each crossing or to placing flagmen there, for the reason that at Sherman avenue a view of trains to the north can be had for about 300 feet only, on account of the curve in the tracks. He expressed the opinion that to make protection by flagman efficient, the flagman should be able to see a quarter of a mile in each direction. It was also stated that at other crossings on the North Western line two sets of gates are operated from the same tower where a view of traffic on the highway is no better than at the crossings under consideration. He said that the towerman whose negligence was referred to by witnesses has been discharged and an efficient operator secured.

A number of narrow escapes at these crossings, due to the imperfect operation of the gates, were described by witnesses, and since the hearing the Commission has been informed by the officials of the company that on October 24, 1913, at 11:30 p. m. a wagon was struck on the Madison avenue crossing, fatally injuring one occupant and seriously hurting the other.

The Commission's engineer has examined the conditions at these crossings. He reports that the gates are in poor condition; that they sometimes do not come completely down; that the pump is difficult to work and that it is often hard to raise the gates. He states that they are slow to respond to the air pressure of the pump, with the result that the gateman sometimes cannot get both sets of gates lowered before the train passes. During his inspection on November 12, 1913, the gateman was absent from his post for 22 minutes, during which time the tower was locked.

South Fifth Street Crossing.

The testimony shows that South Fifth street runs east and west and crosses a main track and three sidetracks which run north and south. The crossing is so situated with reference to certain industries and the yards of the company that a large amount of switching is done over it. The view is badly obstructed in one quarter by a tobacco warehouse, and cars are allowed to stand on the sidetracks in such a way as to further limit the view, a condition which the superintendent said could not be changed. Traffic over South Fifth street is heavy and includes many employes in factories and also about forty school children who are obliged to cross four times a day. Many

farmers have to drive over the crossing in hauling hogs to a near-by sausage factory. Four passenger and four freight trains in each direction are operated in addition to the frequent switching movements. The regular passenger trains were said to move at a speed of about ten miles an hour at this point.

From the report of our engineer it appears that the limits of vision from the east highway approach are as follows:

Distance of point of observation in highway from main track.	View south.	View north.
East 25 feet	2,000 feet	600 feet.
" 50 "	350 "	300 "
" 75 "	2,000 "	1:0 "
" 100 "	2,000 "	80 "
" 200 "	450 "	40 "
" 300 "	100 "	0 "
" 400 "	40 "	0 "
" 500 "	20 "	0 "

The engineer reports that the view from the west approach is comparatively open.

The company's superintendent testified that trainmen are instructed to flag all switching movements over the crossing. However, several witnesses cited numerous instances when switching trains crossed without being flagged by trainmen, and a number of "flying switches" were reported. It was pointed out that even though all switching movements were flagged over the crossing, sixteen regular trains would still cross unprotected.

In the light of the testimony we find that each of the three crossings referred to in the petition is dangerous, and that each requires some further protection. It is apparent that the gates at Sherman avenue and Madison avenue are not in satisfactory operating condition, and it is doubtful whether they can be remodeled so as to afford adequate protection. If the present mode of protection is to be retained, therefore, it will necessitate the installation of new gate equipment. But it seems inadvisable to retain the present system, for the gateman is not able to see approaching traffic on the streets in two quarters, which makes the operation of gates from this tower a source of danger. Moreover, these streets are important thoroughfares near the center of the city and the traffic conditions are such as to make protection by flagmen more effective than the operation

of gates. It is our judgment that these crossings should be guarded by flagmen during the hours when passenger trains are operated. Two regular freights and occasional extra trains cross during the night, and it appears that traffic on the streets continues until a late hour, as is indicated by the recent fatal accident at Madison avenue. These conditions make necessary protection at night and this can be furnished by the installation of electric bells and lights. These bells should be disconnected during the day and connected by the watchmen before leaving at night. An annunciator should be provided to warn the flagmen of the approach of trains from the north, in which quarter the view of the tracks is limited. At South Fifth street switching is frequent in addition to the regular movements over the main track. The street traffic is heavy during the day and includes a considerable number of school children. However, the amount of travel is not so great as at the other crossings under consideration, and does not continue into the night to any large extent. If all switching movements over the crossings are properly flagged by trainmen, we believe that the main track movements can be adequately safeguarded by the installation of a bell and light. The rule requiring trainmen to flag all movements has not been strictly adhered to in the past, and if the railway officials do not enforce the rule rigidly, the Commission will modify this order and require the company to station a flagman there.

1. IT IS THEREFORE ORDERED, That the respondent, the Chicago & North Western Railway Company, station a flagman at each of the two crossings on its line located at Madison avenue West and Sherman avenue West in the city of Fort Atkinson, who shall be on duty from 7 a. m. to 8 p. m. or until such time as the last passenger train has gone by.

2. IT IS FURTHER ORDERED, That said respondent railway company install and maintain at each of the crossings on its line at Madison avenue West, Sherman avenue West and South Fifth street in the city of Fort Atkinson an automatic electric bell with an illuminated sign for night indication; and install an annunciator at Madison avenue West and Sherman avenue West to warn the flagmen of the approach of trains from the north, plans for track circuits to be submitted to the Commission for approval.

Ninety days is considered to be a resonable time within which to comply with the second paragraph of this order.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF A HIGHWAY CROSSING ON THE LINE OF THE CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY AT CHESTNUT STREET IN THE CITY OF EAU CLAIRE.

Submitted Oct. 3, 1913. Decided Nov. 14, 1913.

The Commission, on its own motion, investigated a crossing on the C. M. & St. P. Ry. at Chestnut street in Eau Claire. The railroad crosses two intersecting streets and a street railway at the point in question.

Held: The crossing requires further protection. The respondent is ordered to station a flagman at the crossing to be on duty from 7 a. m. to 6 p. m. daily.

The Commission, being satisfied that sufficient grounds existed to warrant an investigation of the conditions at the Chestnut street crossing on the line of the Chicago, Milwaukee & St. Paul Railway Company in the city of Eau Claire, a hearing was duly ordered and held on October 3, 1913, at Eau Claire. *Arthur H. Shoemaker* appeared for the city of Eau Claire and *J. N. Davis* for the Chicago, Milwaukee & St. Paul Railway Company.

The testimony shows that Chestnut street intersects with Second avenue and Fifth avenue at the crossing in question. Chestnut street runs east and west and Second avenue and Fifth avenue, one of which is practically a continuation of the other, run north and south. The railway runs northeast and southwest. A city street car line runs along Chestnut street, crosses the steam railway tracks and turns south on Fifth avenue. From the east approach on Chestnut street or the south approach on Fifth avenue the view to the northwest is obstructed by a bank to such an extent that a traveler has to be very close to the track before a train becomes visible. From the west approach on Chestnut street or the north approach on Second avenue the view to the southwest is obstructed by a house.

A traffic count was taken by the Chicago, Milwaukee & St. Paul Railway Company continuously for forty-eight hours on September 23 and 24, 1913. These data have been summarized as follows:

Period of observation.	Motorcycles and bicycles.	Teams	Automobiles.	Street cars.	Pedestrians.	Regular trains.	Switching movements.
7 a. m. to 7 p. m.							
Sept. 23, 1913	65	210	94	98	1,238	4	13
" 24, 1913	37	184	40	96	989	4	11
7 p. m. to 7 a. m.							
Sept. 23, 1913	5	23	15	39	316	.....	.....
" 24, 1913	10	12	10	39	241	.....	.....
Total 48 hrs	117	429	159	272	2,784	8	24

One of the men who helped to take this count testified that about 75 per cent of the pedestrians reported were school children. He also stated that bicycles crossed more frequently than motorcycles. It appears that the street railway company has a rule requiring its conductors to flag their cars over the crossing, and the witnesses who made the traffic count testified that the rule was adhered to while they were on duty. Trains are accustomed to whistle for the crossing and ring their bells while approaching it. No protection other than a standard crossing sign is now provided. No accidents were reported.

In the light of the testimony we find that the crossing in question is more than ordinarily dangerous. While the regular train movements are not frequent, there are a number of irregular switching movements which occur at times when the traffic on the streets is heaviest. The fact that street cars carrying a number of passengers cross every fifteen minutes should also be considered, for while the conductors of the street cars are required to flag their cars across, it will be an additional protection to have an employe of the steam railway company also on guard. The streets which are crossed are important ones and the traffic includes an unusually large proportion of children of school age. These conditions make further protection necessary, and it is our judgment that the maintenance of a flagman on the crossing from 7 a. m. to 6 p. m., which is recommended by our engineer, will adequately safeguard the traveling public for the present.

IT IS THEREFORE ORDERED, That the Chicago, Milwaukee & St. Paul Railway Company station a flagman at the highway crossing on its line at Chestnut street in the city of Eau Claire who shall be on duty from 7 a. m. to 6 p. m. daily.

VILLAGE OF BALDWIN
vs.
CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY COMPANY.

Submitted June 18, 1913. Decided Nov. 14, 1913.

The petitioner alleges, in effect, that the Hammond road crossing on the C. St. P. M. & O. Ry. in the village of Baldwin, St. Croix county, is dangerous and that the bell protection which the respondent is planning to install would be inadequate.

Held: The crossing is dangerous. Because of difficulties arising from the nature and amount of traffic, the proximity of the station building to the crossing, and the large number of school children who use the crossing, protection in addition to that afforded by a bell is necessary. The respondent is therefore ordered: (1) to station a flagman at the crossing to be on duty daily from 8:00 a. m. to 9:30 p. m.; and (2) to install and maintain a bell with an illuminated sign to operate during the hours the flagman is not on duty. Plans for track circuits are to be submitted.

The petitioner, a municipal corporation in St. Croix county, Wis., alleges in substance that the respondent maintains highway crossings in the village of Baldwin which are exceedingly dangerous to travelers, and that the installation of bell protection would be wholly inadequate at such crossings. The Commission is therefore asked to require the respondent to install a system of gates or some other protection more effective than bell signals.

The respondent, in its answer, alleges that it is perfecting plans for installation of automatic crossing bells and signals at the crossings in question, and denies that such protection is inadequate or that gates or overhead viaducts are necessary.

A hearing was held on June 18, 1913, at Baldwin, Wis. *E. B. Kinney* appeared for the petitioner and *F. E. Nicoles* for the respondent.

From the testimony it appears that the complaint refers entirely to the Hammond road crossing. The respondent has expressed its willingness to provide bell protection at this crossing, and therefore evidently regards the conditions there as danger-

ous. The highway runs north and south and the railway east and west. The two main tracks and a sidetrack cross the street, and they are so located that a large amount of switching is done over the crossing. The tracks are on a down grade to the west, and westbound trains are operated at high speed through Baldwin. From the north highway approach the view to the west is limited by rising ground so that trains cannot be seen more than four hundred feet west until a traveler is very close to the tracks. From the south highway approach the view in both directions is obstructed by houses, so that trains cannot be seen until a person is within about one hundred feet of the track, and cars standing on the sidetrack further obstruct the view to the east.

The testimony shows that the Hammond road is the most heavily traveled highway in Baldwin. It is largely used by through traffic to and from St. Paul and Eau Claire and intermediate points. About two-fifths of the residences and the village school are located north of the tracks, while the business section and about three-fifths of the residences are south of the railway. Thus a large proportion of the school children are obliged to cross the tracks several times a day. A witness estimated that when school is in session about one thousand crossings are made by the children going to or from school or on errands. The results of a count made on May 27, 1913, for the petitioner were introduced at the hearing. On that day 230 adult pedestrians and 600 children crossed the tracks. There were 249 teams carrying 412 persons, 92 automobiles carrying 256 persons, and 55 bicycles recorded in the count. It was stated, however, that the number of teams was augmented by the fact that two teams were constantly crossing during the day, and that the number of children was less than usual because several classes were not in session on that day. An engineer of the Commission observed the traffic at the Hammond road on October 9, 1913, from 6:30 a. m. to 5:45 p. m., and his record shows that during that period 580 children, 198 adult pedestrians, 149 teams, 33 automobiles and 8 bicycles crossed the tracks. Twenty-one train movements were noted. The testimony of the respondent's superintendent shows that the regular train movements occur as follows:

12:41 a. m.	6:25 a. m.	9:13 a. m.	1:00 p. m.	7:12 p. m.	9:27 p. m.
1:35 "	8:02 "	9:56 "	2:15 "	8:24 "	10:08 "
2:40 "	8:36 "	11:16 "	2:50 "	8:58 "	11:25 "
5:46 "	9:00 "	12:20 "	3:56 "	9:08 "	11:55 "

The switching at Baldwin is done entirely by two local freight trains which arrive at 1:00 p. m. and 2:15 p. m., respectively, and conduct switching operations during periods of from thirty minutes to two hours. Thus a through freight at 2:50 p. m. and a local passenger at 3:56 p. m. pass at a time when one of the local freights may be switching. In addition to the regular trains the superintendent said that a good many extra trains are operated. The speed of through trains from the east was estimated by a witness for the petitioner at from 60 to 80 miles an hour. The company's superintendent admitted that trains pass the crossing at from 30 to 35 miles an hour. He said that trainmen are instructed not to leave cars standing on the sidetrack near the crossing, and to flag all switching movements.

The Commission's engineer has carefully examined the situation at Baldwin and recommends that a flagman be stationed at the Hammond road crossing between the hours of 8 a. m. and 9:30 p. m. daily, and that a bell and light be maintained there during the period when the flagman is not on duty.

In the light of the testimony and of the report of our engineer we find that the crossing is more than ordinarily dangerous and that further protection is required. At a crossing such as this one, where the highway is so located that practically all switching movements cross it and where the depot at which a number of trains stop is within the circuit, protection by an automatic bell offers more difficulties than at points where these conditions are not present. Such difficulties may be overcome to a large extent by suitable operating regulations, but the protection is likely to be less effective than under less complicated circumstances. In the present case a very large number of children use the crossing, and for this reason particular care should be taken that the devices adopted for protection are not in the least confusing to travelers. With these conditions in mind, it is our judgment that a flagman should be stationed at the crossing at least during the hours when children are going to and from school and when switching is being done. If protection by

flagman is afforded from 8:00 a. m. to 9:30 p. m., as recommended by our engineer, it will provide for all but seven of the twenty-four regular trains and will cover the period when the switching is done and when the traffic on the highway is heaviest. This protection, in conjunction with an automatic electric bell which shall be disconnected during the hours that the flagman is on duty, will in our opinion render this crossing reasonably safe under the existing conditions of traffic.

IT IS THEREFORE ORDERED, That the respondent, the Chicago, St. Paul, Minneapolis & Omaha Railway Company, station a flagman at the highway crossing on its line at the Hammond road in the village of Baldwin, who shall be on duty daily from 8 a. m. to 9:30 p. m., and install and maintain at said crossing an automatic electric bell with an illuminated sign for night indication, which shall operate during the hours in which the flagman is not on duty, plans for track circuits to be submitted to the Commission for approval.

W. A. HUME ET AL.
vs.
CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Submitted June 6, 1913. Decided Nov. 14, 1913.

The petitioners allege that the passenger train service rendered by the C. M. & St. P. Ry. Co. between Elkart Lake and Green Bay is inadequate and ask that the railway company be required to extend the operation of train No. 23, leaving Milwaukee at 5:10 p. m. or earlier, from Elkhart Lake to Green Bay, or to change the time of its passenger train No. 9 so that it shall leave Milwaukee at 5:10 p. m., or earlier, and arrive in Chilton before 7:50 p. m. Prior to July 14, 1912, a passenger train was operated between Milwaukee and Green Bay on a schedule under which it arrived at Chilton at 7:50 p. m. On that date a new train, known as No. 9, was put on between Milwaukee and Green Bay and scheduled to arrive in Chilton at 9:37 p. m., and the earlier evening train was discontinued north of Elkhart Lake. No. 9 is a through train running from Chicago to points in upper Michigan. The chief cause of complaint appears to be that it is impossible under the present schedule for persons at Chilton to reach points north of Chilton for evening engagements without taking the morning train and thereby losing an entire day.

Held: Train schedules must be arranged for the convenience of the patrons of the entire line taken as a whole even though in serving the larger purpose the schedules work some hardship on a few communities and individuals. The service rendered by the respondent at Chilton is reasonably adequate. The petition is therefore dismissed.

The petition alleges in substance that the passenger train service rendered by the Chicago, Milwaukee & St. Paul Railway Company on its Superior division between Elkhart Lake and Green Bay is inadequate. The Commission is therefore asked to require the respondent to operate its passenger train No. 23 through from Milwaukee to Green Bay, leaving Milwaukee at 5:10 p. m., or earlier; or to change the time of its passenger train No. 9 so that it shall leave Milwaukee at 5:10 p. m., or earlier, and arrive in Chilton before 7:50 p. m.

The respondent submits for its answer letters from its operating officials in which the position is taken that the extension of train No. 23 from Elkhart Lake to Green Bay as requested

by the petitioners would result in a loss to the company. The dismissal of the complaint is therefore asked.

A hearing was held on June 5, 1913, at Elkhart Lake, Wis. *L. P. Fox* appeared for the petitioners and *J. N. Davis* for the respondent. The hearing was continued at Green Bay on June 6, 1913, *J. N. Davis* representing the respondent.

The testimony shows that prior to July 14, 1912, a passenger train was operated between Milwaukee and Green Bay which was scheduled to arrive in Chilton at 7:50 p. m. On that date a new train, known as Number 9, was put on between Chicago, Milwaukee and Green Bay, scheduled to arrive in Chilton at 9:37 p. m. At the same time the earlier evening train was discontinued north of Elkhart Lake. The schedule of passenger trains on this division, as shown by the company's time table for October, 1913, is as follows:

Northbound.

Station.	[1] No. 3.	[1] No. 9.	[2] No. 21.	[2] No 31.
Milwaukee	12:35 a. m.	7:20 p. m.	4:05 p. m.	7:10 a. m.
Elkhart Lake	2:20 "	9:07 "	6:05 "	9:09 "
Chilton	2:47 "	9:37 "	.....	9:45 "
Green Bay	3:50 "	10:50 "	.....	11:00 "

Southbound.

Station.	[1] No. 2.	[2] No. 36.	[1] No. 10.	[2] No. 6.
Green Bay	12:45 a. m.	.....	7:00 a. m.	3:20 p. m.
Chilton	2:06 "	.....	8:06 "	4:36 "
Elkhart Lake	2:41 "	7:30 a. m.	8:41 "	5:14 "
Milwaukee	:5 "	9:35 "	10:40 "	7:25 "

[1] Daily. [2] Daily except Sunday.

It was pointed out by the petitioners that no northbound train service is provided at Chilton from 9:42 in the morning to 9:37 at night, an interval of approximately twelve hours, with the exception of the way freight which is slow and operates on a very irregular schedule. Residents of Chilton and other points north of Elkhart Lake who have occasion to meet evening engagements at Appleton, Neenah or other centers north of Chilton testified that the present schedule is inconvenient for them. To keep such appointments they are compelled to take

the morning train, thereby losing an entire day, or drive about eight miles to the "Soo" line. It was also shown that prior to the change in schedule the evening mail at Chilton was delivered on the day of its arrival, whereas under the present arrangement residents of Chilton are obliged to wait until morning for the mail which comes in on the 9:37 p. m. train. Chilton is the county seat of Calumet county. It has a population of about 2,000, and is the business center for a thriving agricultural district. Among its business establishments are a milk condensing plant, a malting house, a brewery, several cheese factories, a sash, door and blind factory, two grist mills, three banks, and a printing office. A witness estimated that on the average there are from 7 to 18 passengers boarding and about the same number alighting from the morning and evening trains.

Operating officials of the company testified that the change in the time of trains was made after due consideration of the interests of all patrons of the road. It was thought best to start the "Copper Range Limited", or No. 9, from Chicago at about 5 p. m., so that it would arrive at Calumet, Michigan, about 7:30 a. m. With this new train in operation it was regarded as unnecessary to continue to run a train as far as Green Bay only about two hours ahead of it. The train formerly known as No. 23 was therefore discontinued north of Elkhart Lake. It now handles the local business between Milwaukee and Elkhart Lake, and north of that point the later train makes the local stops. Witnesses for the company expressed the opinion that in the interest of through passengers the time of No. 9 should not be changed. They also asserted that the extension of the earlier train to Green Bay as desired by the petitioners would result in a loss to the company. The additional operating cost of the extension asked for was estimated by the company's superintendent as $761.32 per month, or $9,135.84 per year. Subsequent to the hearing the company submitted a statement of tickets sold during the month of August for points on the Superior division from Milwaukee, which shows a total of 3,492 tickets, of which 273, or 7.8 per cent, were destined for Chilton.

An examination of the testimony and the schedule now in force on the line under consideration does not disclose a condi-

tion, in our opinion, which fails to meet the requirements of reasonably adequate service. Residents of Chilton can take a northbound train at 9:45 a. m. arriving in Green Bay at 11:00 a. m., and can leave Green Bay at 3:20 p. m., thus having more than four hours there for the transaction of business. For points south of Chilton residents of that city can leave at 8:06 a. m., arriving in Milwaukee at 10:40 a. m., and can return on a train leaving Milwaukee at 7:20 p. m. Thus they have ample time to transact business at Milwaukee or an intermediate point and return the same day. In addition to these four trains, a night train in both directions is available for use at Chilton. The chief cause of complaint appears to be the inability of persons to reach points north of Chilton for evening engagements without taking the morning train, thereby losing an entire day. This is no doubt inconvenient for a number of persons, but it cannot be regarded as indicative of inadequate train service; for train schedules must necessarily be arranged for the convenience of the patrons of the entire line taken as a whole, and in serving this larger purpose they inevitably work some hardship on a few communities and individuals. In the present case three passenger trains in each direction are provided, and these trains are so timed that other communities are accessible to residents of Chilton for business purposes. This service we regard as reasonably adequate, and the petition must therefore be dismissed.

RHINELANDER PAPER COMPANY

vs.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY.

Submitted Nov. 11, 1913. Decided Nov. 15, 1913.

The petitioner alleges that it was erroneously charged for the transportation of three carloads of car stakes over the respondent's line from Rhinelander to Armstrong Creek. The car stakes were furnished and shipped by the petitioner for the use of the respondent in moving pulp wood for the petitioner. When the shipments moved the respondent's tariff relating to shipments of saw logs between points within the state provided that car stakes so transported should be returned and delivered to consignee without charge.

Held: The charges exacted of the petitioner were unusual. Refund is ordered.

The petitioner is engaged in the manufacture of paper and pulp at Rhinelander, Wis. It alleges that on or about May 19, June 19, and August 22, 1913, it shipped from Rhinelander to Armstrong Creek, Wis., over the respondent's lines three carloads of car stakes, which were to be used for the purpose of loading carload shipments of pulp wood to be transported for the petitioner by the respondent; that charges were assessed and collected on such car stakes to the amount of $91.50; that the said car stakes were furnished and shipped by petitioner for the use of the respondent in moving pulp wood on flat or gondola cars; that in respondent's tariff G. F. D. 16868, relating to shipment of saw logs between points in this state, it is provided that car stakes so transported shall be transported and delivered without charge; that the charge of $91.50 upon the three cars of stakes in question was erroneous, unusual, and exorbitant.

Wherefore petitioner prays that the respondent be required to refund to it the sum so charged.

The respondent did not file an answer to the petition.

The hearing was held November 11, 1913. The petitioner was represented by *Walter Drew,* its attorney, and the respondent by *Kenneth Taylor,* its attorney.

The facts in the case are briefly these: The petitioner, after receiving shipments of pulp wood over respondent's lines, returned the stakes, which had been used in such shipments, to the petitioner. There were three cars in all and respondent assessed freight charges thereon as follows:

Car	Weight	Rate	Frt. charges
Miss. C. 1211	46,200	7½ cts.	$34 65
Soo 1779	38,800	"	29 10
W. C. 50579	37,000	"	27 75
Total			$91 50

When the shipments in question moved, respondent's tariff G. F. D. No. 16868, relating to shipments of saw logs between points within the state, provided that car stakes so transported should be returned and delivered to consignee without charge. It seems to be conceded that the custom of railroads has been and is to return car stakes to the shipper free of charge. The respondent made no such provision in its tariffs until September 30, 1913. Under the circumstances we find and determine that the charges exacted of the petitioner on the aforesaid shipments of car stakes were unusual, and that such stakes should have been returned to the shipper free of charge.

NOW, THEREFORE, IT IS ORDERED, That the Minneapolis, St. Paul & Sault Ste. Marie Railway Company be and the same is hereby authorized and directed to refund to the Rhinelander Paper Company the aforesaid sum of $91.50.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF THE PROPOSED RELOCATION OF A HIGHWAY WHICH CROSSES THE TRACKS OF THE CHICAGO, BURLINGTON AND QUINCY RAILROAD COMPANY SOUTHEAST OF CASSVILLE.

Submitted Sept. 26, 1913. Decided Nov. 15, 1913.

The Commission, on its own motion, investigated the public necessity of relocating a highway which crosses the C. B. & Q. R. R. near the village of Cassville, Grant county. The highway runs southeast from the village, crosses the railroad, follows the banks of the Mississippi river for about 1.15 miles, then turns north and crosses the railroad again. The railway company is willing to eliminate both crossings by relocating the highway connecting them north of, and parallel to, the tracks and to bear the entire expense of the change. This plan is opposed by three witnesses who own property south of the tracks.

Held: Public safety requires the relocation of the highway. The company is therefore ordered: (1) to construct and maintain for a period of three years a highway, as specified, connecting the crossings; (2) to provide suitable private crossings at these points for the use of owners of property south of the railroad; and (3) to close the present crossings to public travel.

The Commission being satisfied that sufficient grounds existed for an investigation of the public necessity of relocating a highway southeast of the village of Cassville, Grant county, a hearing was duly ordered and held at Cassville, on September 26, 1913. *L. H. Okey* appeared for the village of Cassville and *Woodward & Lees,* by *Andrew Lees,* for the Chicago, Burlington, & Quincy Railroad Company.

The present highway runs southeast from the village north of the tracks, crosses the railway line at a very acute angle about 550 feet west of the village line, follows the bank of the Mississippi river for about 1.15 miles south of the tracks, turns north and crosses the railroad line again at right angles. At the hearing the representative of the Chicago, Burlington & Quincy Railroad Company suggested a plan which would eliminate both of the crossings by relocating the highway connecting them north of and parallel to the tracks. He stated that the railway company is willing to bear the entire expense of the proposed change. This plan was favored by the village president and a number of other witnesses at the hearing, and was opposed by three witnesses who own property south of the tracks.

The testimony shows that the crossing nearest the village, known as the "village crossing", is at a very acute angle. On the northwest approach a good view along the tracks to the southeast may be had, but a train from the northwest is obscured by trees and usually by freight cars standing on the sidetrack, so that a traveler cannot see the train until within about two hundred feet of the tracks. From the southeast highway approach the view to the northwest is limited by high ground so that trains are not visible until one is within a few feet of the railway right of way. To the southeast trains can be seen at a distance of about one hundred fifty feet, when the traveler is near the edge of the right of way, the view being obstructed by trees. Two main tracks, a sidetrack, and a passing track are crossed. It was stated that when the double track system is completed long freight trains will wait on the passing track and will have to be cut to allow traffic to pass, thus obstructing the view of trains on the main tracks. A number of narrow escapes at the crossing were described by witnesses.

The second crossing is known as "Grim's crossing". It is approximately at right angles, the road turning to the northeast north of the tracks and to the northwest south of the tracks. From the northeast highway approach the view to the northwest is fairly open, but to the southeast it is obstructed by trees, so that a traveler must be within one hundred feet of the tracks to see a train five or six hundred feet from the crossing. From the south the road ascends to the tracks and a view of trains is not afforded in either direction until one is on this ascent within one hundred feet of the tracks. The view to the southeast is obstructed by trees near a farm house. An accident in which a team of horses was killed at this crossing was reported.

Traffic over both crossings is substantially the same. One witness estimated the average travel at about twenty vehicles a day. Another expressed the opinion that twenty would fairly represent the minimum traffic, but that as many as fifty vehicles often cross in one day. Ten automobiles are owned in Cassville, and the road is used to some extent for motoring. It leads from Burton to Potosi. A number of children use the crossings on their way to and from school.

Two of the persons who appeared in opposition to the proposed change in the highway live south of the tracks and east of Grim's crossing, but only one has a direct connection with the

present highway. Their chief objection to the plan was that it would shut them off from the public road. They said, however, that if the crossing were allowed to remain as a private crossing, without a fence and gates, they would not be opposed to the change. The third person owns a gravel pit southeast of the village crossing. He stated that if that crossing were allowed to remain as a private crossing it would not materially interfere with his access to the property.

The Commission's engineer has investigated the situation under consideration and recommends that the plan for relocation proposed by the railway company be adopted.

From a careful examination of the testimony and of the report of our engineer we find that each of the crossings under consideration is more than ordinarily dangerous. The plan suggested by the company will eliminate both crossings and provide a shorter route for the great majority of travelers on the highway. The owners of property south of the tracks who have access to the existing highway will no doubt be slightly inconvenienced, but if private crossings are provided for them, they will not be greatly discommoded. In any case the safety and convenience of the great majority of those who use the road must outweigh the inconvenience to which a few persons are subjected. It is our judgment, therefore, that public safety requires the relocation of the highway as proposed by the railway company. The road should be maintained by the company until it is properly solidified and in approximately as good condition as the existing highway.

IT IS THEREFORE ORDERED, That the Chicago, Burlington & Quincy Railroad Company construct, and maintain for a period of three years, a properly surfaced highway fifty feet wide with a crown twenty feet in width parallel to and north of its tracks, connecting the "village crossing," located 550 feet west of the east line of the village of Cassville in Grant county, Wis., and "Grim's crossing," located 1.15 miles southeast thereof; and provide a suitable private crossing near the "village crossing" and at "Grim's crossing" for the use of owners of property south of its tracks.

IT IS FURTHER ORDERED, That upon the completion of the work ordered herein the "village crossing" and "Grim's crossing" shall be closed for public travel.

Six months is considered a sufficient time within which to construct the new highway and open it for the use of the public.

CITY OF WAUKESHA
vs.
THE MILWAUKEE ELECTRIC RAILWAY AND LIGHT COMPANY, MILWAUKEE LIGHT HEAT AND TRACTION COMPANY.

Submitted Jan. 10, 1913. Decided Nov. 15, 1913.

The petitioner alleges: (1) that the limitation of stops made by the cars of the respondent companies within the city of Waukesha results in inadequate street railway service and in danger to public travel at street intersections; (2) that the cars used are inadequate; and (3) that adequate service demands the erection of a suitable waiting room at the junction of the respondents' line and the line of the "Soo" railway company, as required by sec. 1862g of the statutes. In the past the cars have stopped at all street intersections to take on and let off passengers, but under a new schedule which, the respondents allege, was adopted for the purpose of improving the service, the cars stop only at certain designated points. The petitioner alleges that the franchise under which the respondents use the streets in Waukesha requires them to furnish street railway service as distinguished from interurban service and that they have no right to operate interurban cars through the city.

Held: 1. The right of respondents to operate interurban cars upon the streets of Waukesha is a judicial question and not within the power of the Commission to determine, but so long as the respondents render such service it is subject to the supervision and regulation of the Commission. In view both of the requirements of the interurban service and the franchise obligations which the respondents may have assumed with respect to the rendering of street railway service, it is deemed advisable to tentatively increase the number of stops made within the city of Waukesha. If it is found impossible under the new schedule to maintain the running time between Milwaukee and Watertown it will be necessary for the Commission to reduce the number of stops. The respondents are therefore ordered to stop their cars in the city of Waukesha to receive and discharge passengers at points designated by the Commission.

2. It would be impracticable to abandon the cars in use and substitute new cars in their places. The respondents should, however, remedy the defects in the present equipment when ordering or constructing new equipment.

3. The waiting station now provided by the respondents in the city of Waukesha is reasonably adequate to meet the convenience of the public, and it is not necessary to construct a waiting station at the "Soo" line crossing.

The city of Waukesha, in its petition after the usual formal allegations, sets forth in substance: that on July 27, 1897, the city of Waukesha issued a franchise for a street railway to the

Waukesha Electric Railway Company, authorizing it to operate street cars over certain streets within that city; that about 1900 the Milwaukee Light, Heat and Traction Company, designated as the owning company, purchased this franchise; that since that time The Milwaukee Electric Railway and Light Company, designated as the operating company, has been running cars over the streets of the city, giving a combination of street car and interurban service, stopping at all street intersections to take on and let off passengers, and, for some years past, using the same cars for both street car and interurban service; that on or about November 11, 1912, the operating company refused to stop its cars to take on or let off passengers except at specified points, the distance between which is in one instance nearly one-half mile and in many instances nearly one-quarter of a mile; and that this practice is unreasonable, unjust and discriminatory, and does not promote the railway service or the convenience of the public; that the city of Waukesha has never granted to any corporation any franchise to operate an interurban railway or railroad system within its limits, and that the present operation of interurban cars is without the permission of the city; that before the recent changes were made, notice of the proposed changes was published, with the statement that the action was in accordance with instructions issued by the Railroad Commission; that the petitioner is informed and believes that the operating company did not have such authority or instructions from the Railroad Commission; and that without such authorization it violated the provisions of subdivision "e" of sec. 1797—4, of the revised statutes of Wisconsin, as amended by ch. 335, laws of 1909; that public convenience demands that the respondent's cars stop at all street intersections to discharge and take on passengers; that as the cars are now operated they cross the principal streets of the city, without stopping on either side, at a rate exceeding fifteen miles an hour, thereby endangering life and property on the streets; that the cars which are operated are inadequate and inconvenient for the use of the public; and that adequate service demands the erection of a suitable waiting room at the junction of the respondents' line and the line of the "Soo" railway, as authorized by sec. 1862g of the revised statutes of Wisconsin as amended by ch. 366, laws of 1911.

The petitioner therefore prays that the respondents be required: (1) to stop their cars on the near side of each street intersection in the city of Waukesha to receive and discharge passengers; and that this practice, as in force before the recent change, be restored pending the hearing and investigation of this matter; (2) to provide cars which are adequate for the nature and character of the traffic demands; and (3) to provide a suitable waiting station at the "Soo" line crossing.

The respondents, in their answer, admit that they operate in Waukesha under the franchise referred to in the petition. They allege, in substance, that the change complained of in the method of operating cars was made after reasonable notice had been given to the public and after the matter had been submitted to the Railroad Commission and the proposed change approved by that body; that the change is reasonable, just and proper, and that it promotes the railway service and the convenience of the public; that it was made solely for the purpose of enabling the respondents to more efficiently perform their duty of affording proper transportation to the public; and that the public service does not demand that their cars be stopped at each street intersection as desired by the petitioner. They further deny that the failure to stop cars at certain street intersections endangers public travel at those crossings or that the cars operated are inadequate and inconvenient for the use of the public. They allege that they are constructing a waiting room near Clinton street, as approved by the Railroad Commission, and that the traffic in and through the city of Waukesha does not warrant the construction of any other waiting room, shelter or station within the city. The dismissal of the petition is therefore asked.

A hearing was held on January 10, 1913, at the city hall in Waukesha. *E. D. Walsh* appeared for the petitioner, and *C. M. Rosecrantz* for the respondents. A conference was also held before the Commission on February 10, 1913, at its Milwaukee office, at which the same appearances were entered.

The testimony shows that prior to November 11, 1912, all of the cars operated by the respondents in Waukesha were stopped at all street intersections in the city for the purpose of receiving and discharging passengers. About November 11, 1912, a rule was put into force by the respondents that their cars should stop only at the following points: East city limits (Waukesha

Steel Works), Oakland avenue, Hartwell avenue, "Soo" line railway crossing, West street, Clinton street (Public waiting station), North street, Delafield and Bidwell streets, Washington avenue, and the West city limits. The city engineer testified that the distance between these stops is as follows:

East city limits (Waukesha Steel Works) to Oakland ave.	2,214 feet
Oakland ave. to Hartwell ave.	1,621 feet
Hartwell ave. to "Soo" line crossing	906 feet
"Soo" line crossing to West (Gaspar) st.	1,285 feet
West (Gaspar) st. to Clinton st. (Washington station)	1,030 feet
Clinton st. (Washington station) to North st.	673 feet
North st. to Delafield and Summit ave. (Bidwell st.)	2,400 feet
Delafield and Summit ave. (Bidwell st.) to Washington ave.	2,265 feet
Washington ave. to west city limits	1,230 feet

The action of the respondents in limiting the number of stops within the city to those mentioned above was said by witnesses to have resulted in inconvenience to residents of the city. Especial reference was made in the testimony to the inconvenience occasioned by the failure of cars to stop at the Five Points, Whitney street, Bell street, Lake street, and Hyde Park avenue. It was stated that the Five Points is in the heart of the business district, and is more accessible to a large number of people than is Clinton street, which is the nearest stop under the present arrangement. Bell street and Lake Street are about three hundred feet apart and are located between Oakland avenue and Hartwell avenue. The district near these streets is closely settled, and passenger traffic there has doubled within the past two or three years. A witness testified that when the cars were allowed to stop at these streets they seldom passed without letting off or taking on passengers, and that about six persons regularly boarded the 7:30 a. m. car at Lake street. The passenger traffic at each of these streets was said to have been greater than that at Oakland avenue prior to the limitation of the stopping points. Whitney street is located about midway between North street and Delafield and Bidwell streets where the cars now stop. It was formerly a stopping point and was used by a considerable number of people for boarding and alighting from cars. Witnesses testified that a pond and an ice house are so located as to make it inconvenient for residents of the section

near Whitney street to go to North street to take the cars, and that to reach North street persons are obliged to walk down a steep hill which is often icy and, for feeble persons, impassable. Hyde Park avenue is located between the stop at Delafield and Bidwell streets and Washington avenue. It was stated that more people would be accommodated by a stop at this point than by the present stop at Washington avenue.

A count of the passengers boarding and leaving cars at the present stops was made by the respondents for January 8 and 9, 1913. Tables I, II and III, following, incorporate the results of this count:

TABLE I.

PASSENGERS BOARDING CARS IN WAUKESHA AT REGULAR STOPPING POINTS.

BY DATE AND DIRECTION OF TRAVEL.

Stopping point.	Jan. 8, 1913.			Jan. 9, 1913.			Total traffic both days.
	East bound	West bound	Total.	East bound.	West bound.	Total.	
West limits	2	.....	2	.....	.....	.....	2
Washington	.....	.....	.....	.....	.....	.....	.....
Delafield-Bidwell	8	.....	8	13	2	15	23
North	13	3	16	4	.....	4	20
Clinton	320	62	382	289	63	352	734
Gaspar	35	1	36	40	.....	40	76
Soo line crossing	81	9	90	61	1	62	152
Hartwell	30	9	39	32	4	36	75
Oakland	16	7	23	10	13	23	46
East limits	11	38	49	11	26	37	86
Total	516	129	645	460	109	569	1214

TABLE II.

PASSENGERS ALIGHTING FROM CARS IN WAUKESHA AT REGULAR STOPPING POINTS.

BY DATE AND DIRECTION OF TRAVEL.

Stopping point.	Jan. 8, 1913.			Jan. 9, 1913.			Total traffic both days.
	East bound	West bound	Total.	East bound	West bound.	Total.	
West limits	.....	1	1	.....	.....	.....	1
Washington	.....	1	1	.....	1	1	2
Delafield—Bidwell	1	11	12	.....	9	9	21
North	2	19	21	3	10	13	34
Clinton	35	183	218	47	189	236	454
Gaspar	3	61	64	.....	80	80	144
Soo line crossing	5	91	96	5	68	73	169
Hartwell	7	30	37	1	35	36	73
Oakland	21	25	46	16	21	37	83
East limits	66	14	80	54	9	63	143
Total	140	436	576	126	422	548	1,124

TABLE III.

PASSENGERS BOARDING AND ALIGHTING FROM CARS IN WAUKESHA AT REGULAR STOPPING POINTS.

CLASSIFIED AS THROUGH AND LOCAL.

On January 8 and 9, 1913.

Stopping point.	Passengers boarding cars.			Passengers alighting from cars.		
	Total.	Through.	Local.	Total.	Through.	Local.
West limits	2	.....	2	1	.....	1
Washington	.....	.....	.....	2	.....	2
Delafield and Bidwell	23	9	14	21	13	8
North	20	15	5	34	27	7
Clinton	734	618	116	454	402	52
Gaspar	76	62	14	144	128	16
Soo line crossing	152	132	20	169	149	20
Hartwell	75	55	20	73	63	10
Oakland	46	28	18	83	46	37
East limits	86	22	64	143	23	120
Total	1,214	941	273	1,124	851	273

A count of the passenger traffic at the stops from Clinton street to the east city limits for January 23, 24, and 25, 1913, was made by the petitioner. The data are incorporated in Tables IV and V following:

TABLE IV.

PASSENGERS BOARDING CARS AT SPECIFIED STOPPING POINTS IN WAUKESHA.

BY DATE AND DIRECTION OF TRAVEL.

Stopping point.	Jan. 23, 1913.			Jan. 24, 1913.			Jan. 25, 1913.			Total for entire period.
	East bound.	West bound.	Total.	East bound.	West bound.	Total.	East bound.	West bound.	Total.	
Clinton	112	32	144	143	26	169	120	34	154	467
Gaspar	17	1	18	12	.....	12	20	.....	20	50
Soo line crossing	30	2	32	41	2	43	27	7	34	109
Hartwell	21	2	23	23	5	28	26	3	29	80
Oakland	10	7	17	12	5	17	17	4	21	55
East limits	2	10	12	8	17	25	10	17	27	64
Total	192	54	246	239	55	294	220	65	285	825

TABLE V.

PASSENGERS ALIGHTING FROM CARS AT SPECIFIED STOPPING POINTS IN WAUKESHA.

BY DATE AND DIRECTION OF TRAVEL.

Stopping point.	Jan. 23, 1913.			Jan. 24, 1913.			Jan. 25, 1913.			Total for entire period
	East bound.	West bound.	Total.	East bound.	West bound.	Total.	East bound.	West bound.	Total.	
Clinton	116	23	139	91	31	122	185	45	230	491
Gaspar	16	.....	16	18	.....	18	25	1	26	60
Soo line crossing	31	.....	31	52	3	55	77	11	88	174
Hartwell	9	4	13	22	3	25	21	4	25	63
Oakland	11	5	16	9	6	15	3	8	11	42
East limits	11	18	29	3	27	30	10	2	12	71
Total	194	50	244	195	70	265	321	71	392	901

Certain provisions of the franchise under which the respondents operate through the city of Waukesha are as follows:

"SECTION 2. The said company, its successors and assigns are hereby authorized to lay and maintain and operate said single track for a street railway with all necessary turnouts, sidetracks and switches in and along the following named streets in this city: * * *"

"Section 9. The said company, its successors and assigns, shall not operate its lines of railway for any other purpose other than a passenger railway within the streets of the city of Waukesha and such company shall be permitted to carry such personal effects as are usually carried by passengers on street railways."

The city claims that this franchise permits only street car service, as opposed to interurban service, and that the respondents by operating their interurban cars as street cars, stopping at every street intersection, have construed the franchise in this way. Testimony was introduced by the petitioner to show that the respondents, in certain legal actions brought against them some six or seven years previous to the hearing to recover damages due to the introduction of interurban service, maintained the position that the dominant purpose of the service they were rendering was street car service and that they had in the past stopped their cars at all street intersections within the city and that they would continue to do so in the future. It was stated by a witness that this promise had averted the payment of damages in a number of cases. Moreover, a witness residing near Hyde Park avenue testified that the documents for giving

the respondents their right of way in that section were signed with the understanding that cars were to stop at Hyde Park avenue.

With regard to the danger to public travel alleged to be occasioned by the failure of cars to stop at all crossings, it was stated by city police officers at the hearing that under the present arrangement cars cross the Five Points, a densely traveled intersection, at a speed of from fifteen to twenty-five miles per hour. The police officer stationed at the Five Points testified that a number of accidents had been narrowly averted there. He suggested that for the safety and convenience of the public the westbound cars should stop for this crossing at Nickle's corner, and the eastbound cars at Kenton's corner.

The "Soo" line crossing is not more than four hundred or five hundred feet from the passenger station of the "Soo" line, and a considerable number of persons board and leave the interurban cars at this point in traveling to and from the "Soo" station. The interurban cars are often late at this crossing. A witness stated that he had frequently waited twenty-five or thirty minutes for the 1:30 or 6:30 cars, and that as many as fifteen people had to his knowledge waited as long as twenty-five minutes for a car at this point. It was shown that no shelter is provided, and that passengers are necessarily exposed to the weather if obliged to wait for a car there. A count of the traffic at the "Soo" line crossing was taken from January 3 to 9, 1913, inclusive. The results of this count appear in Table VI following:

TABLE VI.

PASSENGERS BOARDING AND ALIGHTING FROM CARS AT THE "SOO" LINE CROSSING.

BY DATE AND DIRECTION OF TRAVEL.

DATE.	PASSENGERS BOARDING CARS.			PASSENGERS ALIGHTING FROM CARS.		
	Eastbound.	Westbound.	Total.	Eastbound.	Westbound.	Total.
January 3, 1913	23	.....	23	58	1	59
January 4, "	39	5	44	48	2	50
January 5, "	46	7	53	45	9	54
January 6, "	15	2	17	48	1	49
January 7, "	17	3	20	48	.....	48
January 8, "	33	8	41	53	5	58
January 9, "	26	1	27	46	2	48
Total	199	26	225	346	20	366

The count taken by the respondents for January 8 and 9 shows a daily average of 76 on and 85 off at the "Soo" line crossing. The count taken by the petitioner for January 23, 24 and 25 shows a daily average of 36 on and 58 off at the "Soo" line crossing. (See Tables I, II, III and IV.)

The franchise provisions relating to street car service may obligate the respondent companies to furnish purely local intra-urban service, but upon this we express no opinion. We understand that the petitioner in the present proceeding is asking, not that the interurban cars be stopped at every street crossing for the purpose of rendering local service, but that the cars be operated for the convenience of those persons who desire to board the cars for points on the line beyond the city limits. Consequently the problem before us involves the interurban service only, and in dealing with this problem we must consider the line from Milwaukee to Watertown as a whole.

The right of the companies to operate interurban cars upon the streets, which was challenged by the city, is a judicial question and not within the power of the Commission to determine. So long as the companies render such service, however, that service is subject to the supervision and regulation of the Commission.

It is our opinion, after considering the reports of our engineers, that to compel the respondents to reëstablish their former practice of stopping at all street intersections within the city of Waukesha would probably result in extending the running time of their cars between the Milwaukee terminal and Watertown. This opinion is based upon observations of the density of traffic upon the streets of the city of Milwaukee over which the cars are now operated and over which they were not operated under the former schedule. Within the past two years street car traffic in the city of Milwaukee over the streets in question has been increased greatly, and there has also been a large increase in vehicular traffic. However, in view of the fact that there are no local cars operated within the city of Waukesha, we deem it advisable that certain additional stops should be made in the city, unless, after a fair trial, it should appear that the present schedule of time between Milwaukee and Waukesha or Watertown can not be maintained because of these additional stops, in which case it would be necessary for the

Commission to reduce the number of stops. It must, of course, be conceded that good practice upon interurban railroads requires certain definite stops or stations along the line for the receiving and discharging of passengers. Unless this plan is followed, the usefulness of the service is destroyed and the public as a whole is inconvenienced. *City of Racine v. T. M. E. R. & L. Co.* 1913, 12 W. R. C. R. 388.

The city of Waukesha does not require a purely local street car service, thereby differing from the cities of Kenosha and Racine, in which the Commission authorized the stops on the interurban line to be limited to a number of specified crossings.

We hesitate to enforce upon the respondents a practice which can not be generally approved; however, in view of the obligations the respondents may have assumed in their franchise, we deem it advisable to experiment with the situation by increasing the number of stops made within the city of Waukesha. If, after a fair trial, it appears that the running time between Milwaukee and Watertown, and between Milwaukee and Waukesha, cannot be maintained under the new schedule, it will be necessary to limit or reduce the number of stops.

In addition to the stops now made in the city of Waukesha, a stop should be made by the westbound cars at Nickle's corner, and by the eastbound cars at Kenton's corner. These points are located at what is known as the "Five Points". Stops should also be made at Whitney street and Hyde Park avenue. It would seem that, with the addition of these stops, some of which are more important than others, the convenience of the traveling public in Waukesha will be fairly well accommodated.

Relative to the complaint as to construction of cars, we fully agree with the city attorney that it would be impracticable to abandon the equipment now on the road and substitute new equipment in its place. In the future, however, the respondents should keep in mind the inconvenience of the present equipment, and in ordering or constructing new equipment should remedy the defects of which complaint is made.

The respondents have now provided a suitable station in the city of Waukesha, and we do not deem it incumbent on them to provide another waiting station at the "Soo" line crossing. On interurban lines it is impossible to construct waiting stations at every stopping point within cities. The cost of acquir-

ing the necessary land and building structures would be so great as to make the expense of rendering such service prohibitive; furthermore, the convenience of the public may require the changing of stopping points from time to time, and in such event new stations would have to be erected and old ones abandoned.

NOW, THEREFORE, IT IS ORDERED, That the respondent railway companies stop their cars to receive and discharge passengers at the points above mentioned, in addition to those at which stops are now made in the city of Waukesha.

CITY OF WAUKESHA
vs.
WAUKESHA GAS AND ELECTRIC COMPANY.

Submitted Oct. 2, 1913. Decided Nov. 18, 1913.

The petitioner alleges that the rates charged by the respondent for electric and gas service in the city of Waukesha are excessive and that the service rendered is inadequate. The respondent operates a joint utility composed of three individual utilities engaged in the manufacture and sale of gas, electricity and heat. A valuation of the property of the utilities was made and the unit physical investment in the gas and electric utilities was compared with the unit physical investment in similar utilities valued by the Commission. The revenues and expenses were investigated and apportionments of expenses were made between consumer and output expenses for the gas utility and between capacity and output expenses for the electric utility. For the electric utility a further apportionment was made among commercial lighting, commercial power, and street lighting expenses.

The rates of the heating utility are not under review in the present proceeding, the heating utility being investigated only in connection with the apportionment of expenses for the gas and electric utilities. It appears, however, that the rates of this utility are too low to cover reasonable costs of operation.

Although the cost of reproducing paving over mains and services must be taken into consideration when determining the cost of reproducing the plant of a utility, this item should not be included in a valuation for rate-making purposes unless the utility has paid for the paving in question. *City of Ripon v. Ripon Lt. & W. Co.* 1910, 5 W. R. C. R. 1, 10.

Companies holding indeterminate permits, whether for single or joint utilities, have assumed responsibility for the highest reasonable development of their business as well as for adequate distribution and sale. For this reason the Public Utilities Law does not make an indeterminate permit entirely exclusive but allows the Commission to grant similar rights to competing plants where conditions warrant the establishment of such plants.

In making an allowance for going value in valuations for rate-making purposes it would be an injustice to force the consumer to bear costs resulting from the failure of the utility's management to properly stimulate the sale of the utility's product. In the present case, the electric utility has suffered heavy losses partly, perhaps, because of the fact that the controlling company, being primarily interested in the sale of gas, has made little effort to increase the sales of electricity. The gas utility, though one of the best developed businesses in the state, has also suffered losses and is at present earning less than enough to provide adequately for interest and depreciation, because of

fixed charges which are heavy in comparison with the volume of business done.

In the electric utility the maximum or peak load occurs in summer and in the daytime and is therefore to be attributed almost entirely to the power business. It would be clearly unjust, however, to assess on the basis of peak responsibility the entire capacity portion of generation and fixed costs to the power business.

The undeveloped condition of the business of the electric utility is in large part due to the fact that the commercial lighting consumers have been compelled to pay rates high enough to include costs which should have been borne by the power consumers. Fully 90 per cent of the power consumption is paid for at rates which are less than the cost of rendering power service, and the losses thus incurred are recouped, so far as recouped at all, from the rates charged commercial lighting consumers.

Several reasons are usually assigned for the giving of rates to power service which are lower than the rates given to lighting service. Among these reasons are the low demand of power service at the time of the maximum load upon the station, and the desirability of building up the day load. In the case of large installations, however, the reason is largely to be found in the necessities of competition. To get and retain the business the utility is forced to supply current at a cost no higher than that at which the individual large consumer could supply himself from a private plant. In many instances this means that the unit costs of the utility must be considerably lower than the unit costs of the private plant to compensate for the fact that the owner of the private plant is often able to use the exhaust steam as a by-product for heating purposes and thereby effect a saving in other of his business expenses.

The probability that taxing officers will use the value placed by the Commission upon the property of a utility as the basis for assessing higher taxes against the utility should be taken into consideration in fixing rates for the services of the utility. Taxes are a legitimate expense of production and must be met from the revenues of the utility.

The controlling company of the utilities involved in the present case charges against these utilities a sum equal to 2 per cent of their gross receipts to cover the expense for the services of the general officers of the company, the services of a centralized purchasing department and the creation and maintenance of an insurance reserve. Under a system of scientific accounting this expense would be apportioned more accurately among the various utilities owned by the controlling company, but in the present case it appears that the expense charged is, on the whole, a fair one and any adjustments which are necessary will be made in the rate of return.

Held: Neither the gas nor the electric utility is earning excessive profits. The gas utility is operating at a loss. The rate schedules of both utilities, however, require revision for the purpose of eliminating certain regressive or otherwise discriminatory features. The respondent is therefore ordered to put into effect schedules determined by the Commission for the sale of both electricity and gas. The schedule of electric rates ordered by the Commission is designed to be developmental and it therefore does not provide sufficient revenue at present to pay a fair return on the investment. The order in this case is tentative and will be modified when the necessity for modification appears.

The petition in the above entitled matter was filed with this Commission on October 24, 1911, by the city of Waukesha. The city alleges in its petition that the rates assessed by respondent for its electric and gas service are excessive and that the service is inadequate.

A hearing was held pursuant to notice on October 1 and 2, 1912, at the office of this Commission. *E. D. Walsh* appeared for the petitioner and *M. A. Jacobsen* for the respondent.

The rates now in effect at Waukesha are as follows:

ELECTRIC RATES.

Commercial Lighting

Meter Rates:

Minimum monthly bill, 50 cts.

Up to 3,300 watts, 50 cts. per mo. min. bill.

3,300	to	50,000	watts	15 cts.	per kw-hr.
50,000	"	100,000	"	14 "	"
100,000	"	500,000	"	12 "	"
500,000	"	1,000,000	"	10 "	"

1,000,000 and over, 9 cts. per kw-hr.

10 per cent discount on above rates, except minimum monthly bill, for payment by the 10th of the month.

Flat Rates:

16 c. p. lamp, $1.50 per month.
10 " " 75 cts. per month.
Commercial arc lamps, $5.00 per month.

Lamps rated at 110–112 volts are handled by the utility. The first installation of carbon lamps is not furnished free of charge. Carbon lamps are renewed free when returned blackened but unbroken. 16 c. p. lamps are sold at 25 cts. Tungsten and tantalum lamps are sold at about 20 per cent above cost, and a discount of 10 cts. is allowed on burnt-out tungsten lamps. The smallest size tungsten lamp handled is 25 watt. Information regarding these matters is printed and attached to electric bills. Inspection is made only on complaint.

Commercial Power

Meter Rates:

Up	to	5	kw-hr., 50	cts. per	month min. bill.
5 "		50	" 10	" "	kw-hr.
50 "		150	" 9	" "	"
150 "		300	" 7	" "	"
300 "		500	" 5	" "	"
500 "		1,000	" 4	" "	"
1,000 and over			" 3	" "	"

10 per cent discount on above rates except minimum bill for payment by the 10th of the month in which bill is presented.

Street Lighting

13—6.6 ampere, 70 volt, a. c. series enclosed arcs burning about 4,000 hours per annum on an all night every night schedule. Rate $78.00 per lamp per year.

... ... 16 c. p., 110 volt, a. c. multiple carbon lamps, same burning schedule as above. Rate $12.00 per lamp per year.

... ... 25 c. p., 110 volt, a. c. multiple carbon lamps, same burning schedule as above. Rate $16.50 per lamp per year.

... ... 32 c. p., 110 volt, a. c. multiple carbon incandescent lamps, same burning schedule as above. Rate $18.00 per lamp per year.

RATES FOR GAS.

Illuminating and Fuel Gas

Meter rate per M cu. ft. $1.30.

Discounts for payments by the 10th of the month:

10 cts. per M cu. ft. for 25,000 cu. ft. or less.
20 " " " 25,000 " to 50,000 cu. ft.
30 " " " 50,000 " " 75,000 "
40 " " " 75,000 " " 100,000 "
50 " " " 100,000 " and over.

Power Gas

Meter rate per M cu. ft. $1.30.

Discount 30 cts. per M cu. ft. if paid by the 10th of the month.

VALUE OF THE PLANT.

The property under review in this case consists of three utilities—gas, electric, and heating. The American Gas Company has had possession of the franchise in the city of Waukesha since 1887 for the gas and electric utilities. The heating department was added recently as an adjunct to the electric utility. The engineers of the Commission have made an appraisal of the physical properties, and their tentative figures are given in Table I:

TABLE 1.

TENTATIVE VALUATION OF THE PROPERTIES.

WAUKESHA GAS AND ELECTRIC COMPANY,

As of June 30, 1912.

	GAS.		ELECTRIC.		HEATING.		TOTAL.	
	Cost new.	Present value.	Cost new.	Present value.	Cost new.	Present value.	Cost new.	Present value.
Land	$7,575	$7,575	$1,975	$1,975	$450	$450	$10,000	$10,000
Transmission and distribution	115,372	98,541	48,575	36,573	29,138	28,519	193,085	163,633
Buildings and structures	15,705	11,933	13,053	12,665	2,974	2,885	31,732	27,483
Plant equipment	68,123	55,053	56,481	52,220	6,251	5,740	130,855	113,013
General "	3,546	2,549	2,920	2,302	139	102	6,605	4,953
Total	$210,321	$175,651	$123,004	$105,735	$38,952	$37,696	$372,277	$319,082
Add 12%[1]	25,209	21,057	14,760	12,688	4,674	4,524	44,643	38,269
Total	$235,530	$196,708	$137,764	$118,423	$43,626	$42,220	$416,920	$357,351
Paving[2]	1,130	1,096	.....	.....	2,006	1,964	3,136	3,060
Total	$236,660	$197,804	$137,764	$118,423	$45,632	$44,184	$420,056	$360,411
Materials & supplies	12,280	12,086	12,368	11,767	331	331	24,979	24,184
Total	$248,940	$209,890	$150,132	$130,190	$45,963	$44,515	$445,035	$384,595
Non-operating	.....	.....	11,108	1,821	.....	.....	11,108	1,821
Tota	$248,940	$209,890	$161,240	$132,011	$45,963	$44,515	$456,143	$386,416

[1] Addition of 12% to cover engineering, superintendence, interest during construction, contingencies, etc.

[2] Paving disturbed by company.

At the time of the hearing several exceptions were taken to this valuation. Engineers for the company pointed out that omissions had been made in the item of materials and supplies account of the gas department. A supplementary report was filed subsequent to the hearing and the value of the omitted materials was added in the summary given in Table I, as was also the sum of $250 for a silica setting which was not included in the first inventory.

The respondent has also submitted a report upon the cost of reproducing such paving as is now in existence over the mains and services of the utility. This amounts to $19,200 according to the figures produced. Although the amounts as a whole seem to be fair for the several kinds of paving, there is no evidence that the respondent in this case has disturbed all of this pavement or any considerable part of it. Notwithstanding the fact that consideration must be given to these items when determining the cost of reproducing the present plant, it does not necessarily follow that in a matter of rates such items should be allowed. The city of Waukesha in constructing this pavement over the mains and services of the respondent assessed the costs for such construction upon the very persons who might be affected as consumers of this utility's product by an increase in rates due to the increase in the valuation of the property upon which the company is entitled to earn.

The item, for rate-making purposes, can be considered only in the light of public requirements. This Commission, in the case of the *City of Ripon v. Ripon Light & Water Co.* 1910, 5 W. R. C. R. 1, 10 said:

"Every legitimate expenditure in adapting the utility to the demands of progress and community growth is a proper charge to construction, and as such the investment therefor is entitled to participate in the distribution of the earnings from operation. Obviously expenditures for pavement incurred by the utility in response to assessments levied therefor by the city, or the cost of cutting through such pavement for construction purposes and its replacement, are proper capital charges. It does not necessarily follow that the utility is to capitalize expenses for municipal betterment in which it has not participated and where such accruing benefits to the utility are remote and incidental, and thus compel the subscribers for utility service to pay increased rates because of public improvements. The improvement is not a proper element of value where the pavement has

not been paid for by the utility, nor any expense in connection with it directly incurred, in determining a value which shall serve as the basis for an adjustment in rates."

The respondent has not disputed the value placed upon the pavement which has been actually disturbed by it in the laying of its mains and services. This being the case, it will not be necessary to consider the paving costs further for the purpose of establishing just and equitable rates.

The respondent has also argued in connection with this case that the 12 per cent allowance for overhead expense during the progress of construction is not sufficient and that 16½ per cent would probably more nearly represent the cost of such items as are included under this head. This item has been discussed in considerable detail in several of the recent decisions of the Commission and it is not deemed necessary at this time to consider the relative merits of the contentions upon this point.

Testimony was also had upon the value of the land now in the possession of the respondent. The Commission has placed a value of $10,000 upon the various parcels in use at the present time and the testimony along these lines gave a value not in excess of $10,500. The value of an easement over certain land for the purposes of reaching a water supply was also discussed but no definite statement as to the probable value of this easement could be secured. The company claims to have actually paid $9,918.87 for the land in its possession. These facts seem to indicate that, although there may be cause for a slight increase in the value of the land as arrived at by the Commission's engineers, such an increase would not materially affect the cost of service.

Several other items, such as switchboard and piping in connection with the valuation of the electric utility, were claimed by the respondent's engineer to be too low. These items have been gone over very carefully and the result substantiates approximately the value placed upon them by the engineers of the Commission.

Since the original inventory was made considerable time has elapsed and it has been thought best, all things considered, to carry the valuation forward to June 30, 1913, and to use the

resulting figures as a basis to arrive at the fair value upon which the utilities are entitled to earn. The additions in total for the three utilities from June 30, 1912, to June 30, 1913, as shown by the respondent's annual report to the Commission, were as follows:

Gas	$4,032.21
Electric	13,623.04
Heating	1,598.09
Total	$19,253.34

The following table shows the unit physical investment of the gas department as compared with similar figures for other utilities which have been valued by the Commission. Such items as paving, overhead, and materials and supplies have been omitted from the compilation. The results were obtained by using the inventory as of June 30, 1912.

TABLE II.

UNIT INVESTMENT IN PHYSICAL PROPERTIES OF 12 WISCONSIN GAS UTILITIES.

	Land			Buildings			Plant			Holder		
	Per M sales	Per consumer	Per mile of main	Per M sales	Per consumer	Per mile of main	Per M sales	Per consumer	Per mile of main	Per M sales	Per consumer	Per mile of main
Average	$0.173	$3.611	$292.58	$0.343	$6.71	$489.66	$0.666	$14.27	$1,100.21	$0.655	$12.84	$990.00
Minimum	.037	1.130	84.91	.089	1.62	00.50	.283	6.43	560.57	.117	3.39	303.00
Maximum	.253	7.668	762.00	.785	18.83	1,241.50	1.550	33.84	2,539.50	1.736	26.38	2,413.00
Median	.179	3.164	190.10	.250	5.02	350.59	.543	9.87	751.20	.664	9.13	848.00
Waukesha	.210	4.30	324.83	.435	8.92	673.46	.829	17.02	1,284.26	1.034	21.20	1,599.91

	Distribution			Office Furniture and Appliances			Total		
	Per M sales	Per consumer	Per mile of main	Per M sales	Per consumer	Per mile of main	Per M sales	Per consumer	Per mile of main
Average	$2,467	$48.51	$3,827	$0.074	$1.38	$129.80	$4.408	$87.79	$6,785
Minimum	1,349	34.96	2,192	.029	.66	39.26	2.626	59.88	3,500
Maximum	4,663	61.36	6,580	.236	3.59	201.85	7.548	146.94	12,953
Median	2,301	47.24	3,840	.056	1.27	93.40	3.944	76.10	6,510
Waukesha	3,000	61.54	4,645	.026	.53	39.67	5.534	113.51	8,567

The following table shows a summary of the investment per kilowatt of capacity for forty-one Wisconsin electrical utilities. These figures are based upon valuations made by this Commission and are for the cost new only.

Descriptive term	Cost new per kw. capacity
Minimum	$98
Average	216
Median	204
Maximum	403
Waukesha	168

It will be noted from these data that the investment in the Waukesha gas property is somewhat higher than the average or median for the other utilities in the state. The electric property, however, is considerably lower. An explanation of these facts will be taken up later in this report.

GOING VALUE.

The company has submitted figures upon the cost of developing the business from 1892 until the present time. These are calculated on several different bases and range in amount from $42,950 to $71,250 for the gas business and from $38,000 to $91,000 for the electric utility. The financial records of the company have not been kept in such shape as to aid us materially in analyzing the costs of developing the business in each department. However, such exhibits as are on file indicate that the losses from operation in the gas and electric departments have been very heavy.

In the electric department it appears from the respondent's exhibits that the losses have been almost continuous, there having been but few years in which the utility was able to earn much over operating expenses. In analyzing the causes for these losses it might be mentioned that the controlling company in this property is primarily interested in gas holdings. Up to the time of taking out an indeterminate permit under the Public Utilities Law in April, 1908, the company had done little to further the sale of electricity. Figures which will be shown later in connection with the development of business and saturation of territory indicate that the effort of the management has, until the last few years, been largely directed toward the extension of the gas business and little if any toward the exten-

sion of the electric business. As will be shown, the gas utility has one of the best developed businesses in the state while the electric has, all things considered, one of the poorest.

Although such a state of affairs might not be due wholly to the fact that the gas and electric utilities are held jointly under one management, yet it seems that under ordinary circumstances, considering the development in neighboring cities, had the electric utility been forced to compete against the sale of gas by other parties the results would have been much more favorable to the former as regards the number of consumers connected. Companies holding indeterminate permits, whether for single or joint utilities, have assumed the responsibility for the highest reasonable development of their business as well as for adequate distribution and sale. For this reason the Public Utilities Law does not make an indeterminate permit entirely exclusive, but allows this Commission to grant similar rights to competing plants where conditions warrant the establishment of such competing plants.

That the respondent has lately recognized its obligation to develop the electric business is evidenced by the fact that the electric plant has within the past three years been practically rebuilt and by the further fact that during the year ending June 30, 1913, its gross earnings were for the first time sufficient to provide an adequate return on the investment.

These facts must be given consideration in attempting to establish a fair amount to be allowed for building up the business. Obviously it would be an injustice to force the consumer to bear the costs resulting from what might be termed the neglect of the management to properly stimulate the sale of the utility's product.

The gas business has fared better as regards losses than has the electric utility. This can be accounted for by the fact that the use of gas in Waukesha has been stimulated to such an extent that the number of consumers per 100 population has practically reached the limit to be expected. Due, however, to the fixed charges which are heavy in comparison with the volume of business, it has been practically impossible for the company to accumulate a surplus. It might be pointed out here that the gas utility is not at the present time earning enough to provide adequately for interest and depreciation on a fair value.

TABLE
BALANCE
GAS, ELECTRIC AND
Year Ending

	1911			
	Gas.	Electric	Heating.	Total.
Assets.				
Property and Plant:				
Cost beginning of year	$264,386 31	$175,936 74	$25,002 81	$465,325 86
Construction during year	20,076 47	26,336 89	6,221 81	52,633 17
Cost close of year	$284,462 78	$202,271 63	$31,224 62	$517,959 03
Treasury Securities:				
Trustee bonds		90,000 00		90,000 00
Treasury bonds	290,000 00			290,000 00
Reserve, Sinking & Special Funds:				
Depreciation reserve fund				
Special funds—suspense	1,755 22	1,976 12		3,731 34
Current Assets:				
Cash	1,507 37	2,000 00		3,507 37
Accounts receivable	5,097 43	8,615 15	54 03	13,766 61
Materials and supplies	9,610 83	14,530 76	157 59	24,299 18
Prepaid Accounts:				
Prepaid insurance	12 00	24 36		36 36
Prepaid interest				
Miscellaneous prepaid accounts	123 48	123 48		246 96
Open accounts		140 28		140 28
Authorizations (special)				
Deficit				
Unfinished authorizations	2,022 88	8,715 81		10,738 69
Total assets	$594,591 99	$328,397 59	$31,436 24	$954,425 82
Liabilities.				
Capital Liabilities:				
Capital stock, common	$70,000 00	$30,000 00		$100,000 00
Funded debt	510,000 00	180,000 00		690,000 00
Reserve, Sinking and Special Funds:				
Depreciation reserve fund	856 32	741 02		1,597 34
Special funds				
Philadelphia office	530 05	427 91	$1 50	959 46
Current Liabilities:				
Accounts payable				
Amer. Gas Co.	9,541 12	110,496 67	30,718 98	150,756 77
Matured interest on funded debt	100 00	5,400 00		5,500 00
Deposits	73 00	160 00		233 00
Miscellaneous current liabilities	152 35			152 35
Accrued Liabilities:				
Accrued insurance	90 00	354 00		444 00
Taxes accrued	553 22	450 00	63 00	1,066 22
Unmatured interest on funded debt				
Miscellaneous liabilities accrued				
Open accounts	49 44			49 44
Surplus	2,646 49	367 99	652 76	3,667 24
Total liabilities	594,591 99	$328,397 59	$31,436 24	$954,425 82

WORKING CAPITAL.

The respondent claims that in addition to materials and supplies there is needed $1,500 in the electric department and $2,000 in the gas department for working capital.

This contention seems on the whole to be justified by the facts at hand. Certain economies arise from the operation of utilities jointly, due to the fact that the dates for payments can be so arranged as to reduce the amount of working capital required to a minimum.

III.

SHEET.

HEATING UTILITIES.

June 30.

1912				1913			
Gas.	Electric.	Heating	Total.	Gas.	Electric.	Heating.	Total.
$284,462 78	$202,271 63	$31,224 62	$517,959 03	$290,100 62	$233,933 36	$31,906 92	$555,940 90
5,637 84	31,661 73	682 30	37,981 87	4,032 21	13.623 04	1,598 09	19,253 34
$290,100 62	$233,33 36	$31,906 92	$555,940 90	$294,132 83	$247,556 40	$33,505 01	$575,194 24
47.000 00	38,000 00	5,000 00	90,000 00	47,000 00	38,000 00	5,000 00	90 000 00
151,000 00	122,000 00	17.000 00	290,000 00	151,000 00	122,000 00	17,000 00	290,000 00
1,051 73	457 75	....	1,509 48	2,994 13	1,366 30	.....	4,360 43
1,755 22	1,976 12	.....	3,731 34	1,755 22	1,976 12	.....	3,731 34
2,892 00	2,181 73	.....	5.073 73	1 741 68	.....	.....	1,740 68
4,894 28	5,999 90	60 80	10,954 98	5,999 30	8,000 72	190 19	14.190 21
11,410 94	11,035 70	319 94	22,766 58	11,713 88	11,877 43	44 81	23,636 12
.....	.....	.....	.....	4 58	67 58	.....	72 16
.....	.....	.....	.....	.....	.....	.....	.....
68 50	723 80	....	792 30	109 85	109 85	....	219 70
125 24	2,864 41	... .	2,989 65	167 28	264 92	.....	432 20
.....	.....	.....	.....	3,916 47	.....	.....	3,916 47
.....	.....	.....	.....	.....	.....	.....	.....
3,103 87	5,274 01	.....	8,377 88	2,318 14	1,323 53	.....	3,641 67
$513,402 40	$424,446 78	$54,287 66	$992,136 84	$522,853 36	$432,542 85	$55,740 01	$1,011,136 22
$52,000 00	$43,000 00	$6,000 00	$100,000 00	$52,000 00	$42,000 00	$6.000 00	$100,000 00
359,500 00	290,500 00	40,000 00	690,000 00	359,500 00	290,500 00	40,000 00	690.000 00
2,746 19	2,968 85	.....	5,715 04	4,813 49	5.732 70	.....	10,546 19
573 54	460 23	72 67	1,106 44	1,088 65	1,122 23	139 53	2,350 41
.....	.....	.....	.....	.....	.....	.....	.....
2,261 72	2,079 39	.....	4,341 11	1,382 01	4,749 53	.....	6,131 54
91,809 15	84,281 81	7,884 65	183,975 61	101,563 00	81,839 46	9,174 34	192,576 80
.....	.....	.....	.....	.....	.....	.....	.....
158 00	85 00	.....	243 00	213 00	145 00	.....	358 00
47 32	66 85	.....	114 17	92 99	69 75	.....	162 74
180 00	360 00	.....	540 00	180 00	360 00	.....	540 00
660 00	480 00	60 00	1,200 00	555 99	404 35	50 54	1,010 88
.....	.....	.....	.....	.....	.....	.....	.....
137 51	137 51	.....	275 02	287 51	287 51	.....	575 02
.....	.....	.....	.....	240 49	25 00	.....	265 49
3,328 97	1,027 14	270 34	4,626 45	936 23	5,307 32	375 60	6,619 15
$513,402 40	$424,446 78	$54,287 66	$992,136 84	$522,853 36	$432,542 85	$55,740 01	$1,011.136 22

TOTAL VALUE OF THE PLANTS.

When all of the various factors involved in the determination of a fair value are given due weight, it appears that the respondent should be allowed to earn a reasonable return on about $233,000 for the gas plant and $156,800 for the electric plant.

Table III shows the balance sheet of the three utilities separately for the past three years. These are for the year ending June 30 and are the same as given in the annual report of these utilities to this Commission.

TABLE
INCOME
WAUKESHA GAS, ELECTRIC
Year Ending

Italic figures denote deficits.

	1911			
	Gas.	Electric.	Heating.	Total.
Operating Revenues:				
Earnings from low pressure steam sales			$3,479 33	$3,479 33
Commercial lighting earnings		$13,724 17		13,724 17
Municipal contract lighting earnings		9,117 55		9,117 55
Commercial power earnings		7,506 84		7,506 84
Commercial earnings (gas)	$41,927 86			41,927 86
Power earnings (gas)	369 25			369 25
Mun. contract ltg. earnings (gas)	9 00			9 00
Net earnings from residuals (gas)	11,812 70			11,812 70
Total operating revenues	$54,118 81	$30,348 56	$3,479 33	$87,946 70
Operating Expenses:				
Transmission and transformation				
Power (electric)		$13,823 54		$13,823 54
Steam (heating)			$2,283 07	2,238 07
Production (gas)	$27,993 87			27,993 87
Distribution	2,718 09	2,373 51		5,091 60
Consumption	3 60	1,874 60		1,878 20
Commercial	1,422 36	929 95		2,352 31
General	3,024 20	2,748 65		5,772 85
Undistributed	192 00	732 36		924 36
Total of foregoing	$35,354 12	$22,482 61	$2,283 07	$60,119 80
Depreciation	856 32	741 02		1,597 34
Contingency				
Taxes	1,335 22	1,137 21		2,472 43
Total operating expenses	$37,545 66	$24,360 84	$2,283 07	$64,189 57
Net operating revenues	$16,573 15	$5,987 72	$1,196 26	$23,757 13
Non-operating revenues	*233 05*	65 72		*167 33*
Amount available for interest, dividends and additional depreciation	$16,340 10	$6,053 44	$1,196 26	$23,589 80
Per cent on fair value	7.75	5.17	3.01	6.42

Table IV shows the income accounts for the separate utilities for the past three years. The joint expenses have been apportioned by the respondent for the purpose of reporting the various items to the Commission.

It should be noted in this connection that the respondent is not providing adequately for depreciation. For the year ending June 30, 1913, depreciation reserve was charged with

IV.
ACCOUNT.
AND HEATING UTILITIES.
June 30.

1912				1913			
Gas.	Electric.	Heating.	Total.	Gas.	Electric.	Heating.	Total.
.....	.....	$4,452 83	$4,452 83	.....	.....	$6,226 70	$6,226 70
.....	$16,126 22	.....	16,126 22	.....	$18,002 31	.....	18,002 31
.....	9,137 16	.....	9,137 16	.....	9,528 83	.....	9,528 83
.....	12,833 16	.....	12,833 16	.....	22,219 94	.....	22,219 94
$42,775 09	.....	.....	42,775 09	$44,405 40	.....	.....	44,405 40
163 98	.....	.....	163 98	287 40	.....	.....	287 40
.....	.....	.....	.....	.....	.....	.....	.....
13,476 20	.....	.....	13,476 20	14,807 55	.....	.....	14,807 55
$56,415 27	$38,096 54	$4,452 83	$98,964 64	$59,500 35	$49,751 08	$6,226 70	$115,478 13
.....	.....	.....	.....	.....	57 19	.....	57 10
.....	16,052 39	.....	16,052 39	.....	21,750 95	.....	21,750 95
.....	.....	$2,991 22	2,991 22	.....	.....	3,315 83	3,315 83
$30,092 28	.....	.....	30,092 28	$33,304 15	.....	.....	33,304 15
2,811 91	1,552 68	133 09	4,497 68	3,065 94	2,171 72	275 49	5,513 15
.....	1,319 27	.....	1,319 27	.....	1,574 54	.....	1,574 54
1,767 62	1,509 42	6 95	3,283 99	1,810 18	1,142 53	38 43	2,991 14
3,343 99	3,036 88	154 37	6,535 24	3,769 03	3,826 18	202 08	7,797 29
286 37	742 74	.....	1,029 11	360 42	750 42	.....	1,110 84
$38,302 17	$24,213 38	$3,285 63	$65,801 18	$42,309 72	$31,273 53	$3,831 83	$77,415 08
1,889 87	1,939 08	.....	3,828 95	2,031 30	2,732 35	.....	4,763 65
.....	.....	.....	.....	.....	.....	.....	.....
1,313 52	933 60	123 00	2,370 12	1,485 00	1,080 00	135 00	2,700 00
$41,505 56	$27,086 06	$3,408 63	$72,000 25	$45,826 02	$35,085 88	$3,966 83	$84,878 73
$14,909 71	$11,010 48	$1,044 20	$26,964 39	$13,674 33	$14,665 20	$2,259 87	$30,599 40
662 15	890 39	.....	1,552 54	623 58	824 28	.....	1,047 86
$15,571 86	$11,900 87	$1,044 20	$28,516 93	$14,297 91	$15,489 48	$2,259 87	$32,047 26
6.74	8.33	2.27	6.78	6.13	9.85	4.52	7.28

$4,763.65 although an adequate provision for replacements would have been about $12,411.16. This amount includes depreciation for the property as a whole and has been computed for each utility separately. When this fact is taken into consideration the amount available for interest and profits on the property as a whole would be but $24,400.35 or 5.54 per cent on a total fair value.

The per cent return on fair value which is available in each department is given below for the years 1912 and 1913:

Year ending June 30.	Gas dept.	Electric dept.	Heating dept.	Total.
1912	5.42	5.02	[1].20	4.67
1913	5.01	7.22	2.69	5.54

[1] Deficit.

The above results were arrived at by using the apportionments made by the company in all cases except for the item of depreciation, in which case we have apportioned the expense according to the depreciation of each utility's property.

It will be noted that except for the electric utility's earnings of some 7 per cent in 1913 none of the utilities have been receiving an adequate return on the money invested in the plants.

APPORTIONMENT OF EXPENSES.

Before accepting as final the results obtained in the foregoing computations it will be necessary to analyze the apportionments made by the company.

Steam generation expense has been apportioned on the basis of the actual amount of steam used in each department. All of the steam used by the gas department is measured by a steam flow meter and all steam furnished the heating department is measured through consumers' meters and line drip meters. The difference between these accounts and the total expense is charged to the electric department. It appears from this that all losses up to the meters are charged to the electric utility.

In order to ascertain what the normal steam generation expense would be in Waukesha we have assumed a fuel consumption of six pounds per kilowatt hour. This would mean an expenditure of $13,457.17 for fuel delivered at the plant during the year. Operating labor within the boiler room has been charged ¾ to the electric utility and ¼ to heating. Steam supplies are divided evenly between the two departments, while all maintenance items are charged to the electric utility direct.

It must be understood, however, that, outside of the items of labor and steam materials expense, this distribution is not for the purpose of determining the proportion of expense chargeable to the separate departments, but merely to determine what the normal steam expense for the electric department should be. With an output of some 1,400,000 kilowatt hours and a load factor such as obtains at Waukesha, we believe that six pounds of coal per kilowatt hour is a fair performance to expect of an efficient plant. The company is at the present time installing apparatus which will, in all probability, bring the fuel efficiency up to the point indicated. These improvements, which are necessary at the present time, would bring the cost of steam generation for the electric utility to $15,914.69 instead of $17,172.01 as reported. Although a computation such as this in a way places the heating business on a residual basis, the fact must not be overlooked that in all probability the saving in expense which will be effected by the installation of new equipment will about wipe out the difference between the amount which we have charged to the electric utility and that which the company has charged to it. With this correction made, it appears that the cost of generating current at the switchboard is in the neighborhood of 1.5 cts. per kilowatt hour, which is a fair figure when compared with figures for other plants in the state.

In making its reports to the Commission the company has apportioned general expenses over the utilities on the basis of sales. Although practice has indicated that the separation of such expense should be made on the basis of the direct expense, it is not clear, especially in the instant case, that this method would produce results more nearly correct than the one used.

Taxes have been apportioned by the company on the basis of plant charges on the books of the company. In making a separation for our purposes, however, we have considered our valuation of the various utilities as a more equitable basis for the division of this expense than the one now used.

At the time of the hearing in this matter it was pointed out that the valuation of the Commission might be used as a basis for taxation. In justice to the company it is necessary to point out here that, taxes being a legitimate expense of production,

any increases chargeable to such expense must be reflected in the rates of the utility. As has been shown previously, the net earnings of the Waukesha utilities combined are some $24,000. With this as a basis, the ratio of assessed to true value and the tax rate remaining the same, the increase in the expense for taxes will probably be about $1,200 or $1,300. Although we cannot, at this time, make any predictions as to the actual taxation expense for the future, the fact that an increase in such expense is a probability should be taken into consideration. In view of this uncertainty we have not made any allowances in the expense distributions but shall take this into account at the time of making the schedules of rates for the various utilities.

Another matter brought up at the time of the hearing was that of the Philadelphia office expense. As has been explained, the controlling company of the Waukesha utilities is the American Gas Company. It appears that this company receives 2 per cent of the gross receipts of the business.

The purpose of this assessment is to cover the expense for salaries of the president, secretary, treasurer, and directors for their supervision over the company, and for the services of a centralized purchasing department. A part also of this expense is used to build up an insurance reserve.

Due to the fact that outside of the electric utility the company is making less than 7 per cent on fair value, this question does not become of primary importance except insofar as the rate of return in each of the utilities is affected by any adjustments made. It should be said, however, in this connection that scientific accounting procedure would probably dictate the separation of the various accounts going to make up the whole amount for which the assessment is made, and the allocation of these accounts over the various utilities under control of the parent company.

In the matter of executive salaries, for instance, the amount charged could be apportioned back on some scientific basis over the various utilties owned by the American Gas Company. The same would be true of the insurance reserve.

It is not clear, however, that all of the benefits derived from a centralized purchasing department should accrue to the management. Neither can it be said that all such benefits should accrue

to the consumer, for in such a case there would be no incentive to induce concentration for the purpose of economy.

From the facts at hand it appears that the expense chargeable to the Philadelphia office is on the whole a fair one. Any adjustments which are necessary in this connection will be reflected in the rate of return as has been noted above.

In the study of the rate problems involved in this case the gas utility will first be reviewed.

OPERATING STATISTICS.

Table V shows the gas manufactured, sold and unaccounted for, for the last five years. The decrease in the manufacture of gas since 1909 is due to the fact that the company is not at the present time transferring gas for use in its electric utility.

TABLE V.
GAS ACCOUNT.
Year Ending June 30.

	1909	1910	1911	1912	1913
Gas on hand first of year.....	267,800	276,900	212,000	197,200	206,100
Gas made during year	52,067,700	42,955,300	38,674,100	40,337,500	45,476,000
Total gas to account for ..	52,335,500	43,232,200	38,886,100	40,534,700	45,682,100
Gas on hand close of year.....	276,900	212,000	197,200	206,100	242,500
Gas delivered to mains.....	52,058,600	43,020,200	38,688,900	40,328,600	45,439,600
Gas sold.....	32,233,900	33,286,700	35,649,800	36,106,700	37,394,700
Gas used by company.....	504,600	376,100	338,700	272,400	209,800
Gas transferred.....	16,431,700	6,509,000	.....	.....	.....
Total gas used and sold...	49,170,200	40,171,800	35,988,500	36,379,100	37,604,500
Gas unaccounted for.....	2,888,400	2,848,400	2,700,400	3,949,500	7,835,100
Percentage.....	5.52	6.59	6.95	9.7	14.01

Table VI gives an account of the development of the business and saturation of territory in a number of Wisconsin cities, including Waukesha. It will be noted that the Waukesha utility has a saturation which compares favorably with the best class A utility in the state. The number of consumers per 100 population was 17.9 for 1910, 19.7 for 1911, 20.1 for 1912, and 21.1 for 1913. Not only is this true, but the consumption per capita per annum as well as the consumption per consumer is highly favorable when compared with the average of the other class

A utilities throughout the state. Attention should probably be called to the fact that Waukesha is somewhat smaller in population than the cities with which it is compared. In consumers per mile of main the gas utility falls somewhat short of the average. This would indicate, in a general way, that the utility is making extensions wherever advisable.

TABLE VI.

DEVELOPMENT OF BUSINESS AND SATURATION OF TERRITORY.

Class A utilities, 1910.	Consumers per 100 population.	Cu. ft. sales per capita per annum.	Cu. ft. sales per consumer per annum.	Feet of mains per 100 population.	Consumers per mile of mains.
Minimum	5.3	694	13,003	302	48.6
Maximum	20.0	7,103	38,836	1,474	172.2
Average	12.7	2,778	20,732	817	84.6
Median	12.8	2,355	19,090	800	76.1
Waukesha (1910)	17.9	3,807	21,316	1,385	70.
" (1911)	19.7	4,079	21,386	1,399	72.
" (1912)	20.1	4,131	20,515	1,409	75.
" (1913)	21.12	4,279	20,257	1,452	76.

Apportionment of Gas Expenses.

The gas expenses have been apportioned on the basis outlined in previous decisions of this Commission. Taxes and interest have been apportioned between consumer and output expenses upon the basis of the actual property to which such expenses are attributable. Depreciation is separated over the above headings upon the basis of the actual amount which must be set aside to replace the property distributed as to consumer and output investment. Table VII shows the result of this apportionment:

TABLE VII.

SUMMARY OF APPORTIONMENT OF WAUKESHA GAS EXPENSES.

For the Year Ending June 30, 1913.

Classification.	Consumer expense.		Output expense.		Total expense.
	Amount.	Per cent.	Amount.	Per cent.	
Total production	.....	.....	$33,304 15	100	$33,304 15
Total distribution	$1,651 46	53.86	1,414 48	46.14	3,065 94
Total commercial	1,186 65	100	.....	.....	1,186 65
Total direct expenses	$2,838 11	7.56	$34,718 63	92.44	$37,556 74
Total general	284 94	7.56	3,484 09	92.44	3,769 03
Total undistributed	27 25	7.56	333 17	92.44	360 42
New business	47 14	7.56	576 39	92.44	623 53
Total foregoing	$3,197 44	7.56	$39,112 28	92.44	$42,309 72
Deduct residuals	.....	.....	14,807 55	100	14,807 55
Total of foregoing less residuals	$3,197 44	11.63	$24,304 73	88.37	$27,502 17
Taxes	640 92	43.70	825 72	56.30	1,466 64
Depreciation	1,967 99	42.50	2,662 58	57.50	4,630 57
Interest and profit	7,127 47	43.70	9,182 53	56.30	16,310 00
Total expense	$12,933 82	25.91	$36,975 56	74.09	$49,909 38

The following table shows the foregoing results placed upon a unit basis:

TABLE VIII.

UNIT COSTS OF THE CONSUMER AND OUTPUT EXPENSE.

For the Year Ending June 30, 1913.

Class of expense.	Unit.	No. of units.	Total cost.	Unit cost.
Consumer	Meter months	21,277	$12,033 82	$0.608
Output	M cu. ft.	37,395	36,975 56	.989
Total	M cu. ft.	37,395	$49,909 38	$1.3346

In order to determine the cost of supplying gas in various quantities, the foregoing unit costs have been used to construct the cost curve given in Table IX;

TABLE IX.

VARIABLE COST PER UNIT OF CONSUMER, OUTPUT AND TOTAL EXPENSE

WAUKESHA GAS UTILITY.

Year Ending June 30, 1913.

M cu. ft.	Consumer cost	Output cost $0.989 per M.	Total cost	Total cost per M cu. ft.
1.....	$0.608	$0.989	$1.597	$1.597
2.....	"	1.978	2.586	1.293
3.....	"	2.967	3.575	1.192
4.....	"	3.956	4.564	1.141
5.....	"	4.945	5.553	1.111
10.....	"	9.890	10.498	1.050
25.....	"	24.725	25.333	1.013
50.....	"	49.450	50.058	1.001
100.....	"	98.900	99.508	.995
250.....	"	247.250	247.858	.991
500.....	"	494.500	495.108	.990
1,000.....	"	989.000	989.608	.9896

An inspection of this curve will show that the respondent is actually selling gas at a loss as far as the consumers who are using less than 2,000 cu. ft. per month are concerned. This might not seem significant, but when it is considered that 66.15 per cent of all gas consumed falls within this group the importance of the low rate given for this class of service will be understood. From the saturation figures given in Table VI it will be seen that the respondent has not suffered any decrease in consumption because of high rates.

If the gas utility is to develop its business to the maximum, the cost curve given in Table IX cannot be followed rigidly. Were it not for the fact that the schedule now in force at Waukesha has some regressive features which must be eliminated, the Commission would be inclined to make little if any adjustment in the rates. Since this condition exists, however, it will be necessary to revise the rates to some extent, although the new schedule will keep intact the company's present revenue as a whole.

Table X gives the distribution of gas consumption by consumption groups. It will be noted that fully 87½ per cent of the consumption falls within the first 5000 cu. ft. The grouping here shows the same tendencies as have been found to prevail in other gas utilities throughout the state.

TABLE X.

DISTRIBUTION OF GAS SOLD.

WAUKESHA GAS UTILITY (1913).

1st M	42.28	per cent
2nd M	23.87	"
3rd M	11.89	"
4th M	6.06	"
5th M	3.47	"
5th to 10th M	6.62	"
10th to 25th M	3.65	"
25th to 50th M	.82	"
50th to 100th M	.69	"
All over 100th M	.65	"
Total consumption	100.00	"

APPORTIONMENT OF ELECTRIC EXPENSES.

The electric expenses in this case have been apportioned along lines explained in previous decisions of this Commission. The capacity and output expense have been separated and each of these has been in turn apportioned between commercial lighting, commercial power, and street lighting.

Table XI shows the result of separating these expenses between capacity and output expense:

TABLE XI.

APPORTIONMENT OF EXPENSES BETWEEN CAPACITY AND OUTPUT EXPENSE.

Year Ending June 30, 1913.

Classification.	Capacity expense.		Output expense.		Total expense.
	Amount.	Per ct.	Amount.	Per ct.	
Total power generation	$7,489 31	36.54	$13,004 32	63.46	$20,493 63
Total distribution	1,704 25	76.46	524 66	23.54	2,228 91
Total consumption	783 84	49.78	790 70	50.22	1,574 54
Total commercial	895 31	78.36	247 22	21.64	1,142 53
Total direct expense	$10,872 71	42.74	$14,566 90	57.26	$25,439 61
Total general	1,635 31	42.74	2,190 87	57.26	3,826 18
Total undistributed	320 73	42.74	429 69	57.26	750 42
Total foregoing expense	$12,828 75	42.74	$17,187 46	57.26	$30,016 21
Total fixed expense	8,020 44	42.74	10,745 22	57.26	18,765 66
Total expense	$20,849 19	42.74	$27,932 68	57.26	$48.781 87

The separation of the capacity and output expense between the different classes of service has been complicated by the fact that the maximum or peak load on the station occurs in summer in the daytime. This means that for practical purposes the power load is the only one contributing to the peak, it being highly improbable that during the months of May and June the lighting load would "come on" much before seven or eight o'clock. The peak load for the year ending June 30 was 440 kw. and occurred on May 26 at 5:30 p. m. For the year ending June 30, 1913, it was 600 kw. and occurred both on June 19, at 4:30 p. m. and June 22, at 10:30 a. m. We cannot escape the conclusion, on the basis of the above facts, that the power business is almost entirely responsible for the peak.

This condition must reflect itself in the distribution of expense over the various services. It would be clearly unjust to assess on the basis of peak responsibility the entire capacity portion of generation and fixed costs to the power business. It is obvious that the use of the investment theoretically caused by the peak load should also be taken into consideration. As the service demands through their load factors are the best determinants of such use it is considered fair in this case to separate the expenses above mentioned on this basis.

The results obtained by the foregoing method are shown in Table XII:

TABLE XII.

SUMMARY OF APPORTIONMENT OF DEMAND AND OUTPUT EXPENSES BETWEEN INCANDESCENT, POWER, AND STREET LIGHTING SERVICE.

WAUKESHA ELECTRIC UTILITY,

Year Ending June 30, 1913.

CLASSIFICATION.	CAPACITY EXPENSE.						
	Commercial lighting.		Commercial power.		Street lighting.		Total amount.
	Amount.	Per cent.	Amount.	Per cent.	Amount.	Per cent.	
Total power generat'n	$1,246 97	16.65	$5,549 58	74.10	$692 76	9.25	$7,489 31
Total distribution	1,098 43	64.45	230 05	13.50	375 77	22.05	1,704 25
Total consumption	436 39	55.68	52 61	6.71	294 84	37.61	783 84
Total commercial	789 21	88.15	106 10	11.85	.....	.....	895 31
Total direct expense	$3,571 00	32.84	$5,938 34	54.62	$1,363 37	12.54	$10,872 71
Total general	537 04	32.84	893 21	54.62	205 06	12.54	1,635 31
Total undistributed	105 33	32.84	175 18	54.62	40 22	12.54	320 73
Total of foregoing	$4,213 37	32.84	$7,006 73	54.62	$1,608 65	12.54	$12,828 75
Total fixed expense	2,029 17	25.30	4,844 35	60.40	1,146 92	14.30	8,020 44
Grand total	$6,242 54	29.94	$11,851 08	56.84	$2,755 57	13.22	$20,849 19

CLASSIFICATION.	OUTPUT EXPENSE.						
	Commercial lighting		Commercial power.		Street lighting.		Total amount.
	Amount.	Per cent.	Amount.	Per cent.	Amount.	Per cent.	
Total power generat'n	$1,475 99	11.35	$8,238 24	63.35	$3,290 09	25.30	$13,004 32
Total distribution	349 61	66.63	70 03	13.35	105 02	20.02	524 66
Total consumption	254 94	32.24	.....	.....	535 76	67.76	790 70
Total commercial	217 92	88.15	29 30	11.85	.....	.....	247 22
Total direct expense	$2,298 46	15.78	$8,337 57	57.24	$3,930 87	26.98	$14,566 90
Total general	345 72	15.78	1,254 05	57.24	591 10	26.98	2,190 87
Total undistributed	67 81	15.78	245 95	57.24	115 93	26.98	429 69
Total of foregoing	$2,711 99	15.78	$9,837 57	57.24	$4,637 90	26.98	$17,187 46
Total fixed expense	2,718 54	25.30	6,490 11	60.40	1,536 57	14.30	10,745 22
Grand total	$5,430 53	19.44	$16,327 68	58.45	$6,174 47	22.11	$27,932 68

These figures have been used in computing the cost curves given below. We have also given a cost curve based upon a theoretical plant operating under normal conditions with a night and winter peak contributed to more largely by lighting than by power service. We have introduced this to indicate in some measure what the costs would be if normal conditions, obtaining in other places, existed in Waukesha.

TABLE XIII.
UNIT COSTS FOR COMMERCIAL LIGHTING.
WAUKESHA ELECTRIC UTILITY.
For Year Ending June 30, 1913.
Cents per Kw-Hr.

Hours daily operation.	Capacity cost.	Output cost.	Total cost.	Hypothetical cost curve.
½	9.60	3.74	13.34	19.95
¾	6.40	3.74	10.14	14.19
1	4.80	3.74	8.54	11.31
2	2.40	3.75	6.14	6.99
3	1.60	3.74	5.34	5.55
4	1.20	3.74	4.94	4.83
5	.96	3.74	4.70	4.40
10	.48	3.74	4.22	3.53
20	.24	3.74	3.98	3.10

TABLE XIV.
UNIT COSTS FOR POWER SERVICE.
WAUKESHA ELECTRIC UTILITY.
For Year Ending June 30, 1913.
Cents per Kw-Hr.

Hours daily operation.	Capacity cost.	Output cost.	Total cost.	Hypothetical cost curve.
1	5.29	2.02	7.31	6.86
2	2.65	2.02	4.67	4.57
3	1.76	2.02	3.78	3.81
4	1.32	2.02	3.34	3.43
5	1.06	2.02	3.08	3.20
10	.53	2.02	2.55	2.75
20	.27	2.02	2.29	2.52

It will be noted that the curves based upon the actual conditions of operation at Waukesha show that the initial cost for one hour's use of the active load is not greatly different for the power and lighting services, the expense being 7.31 cts. per kw-hr. in the former case and 8.54 cts. in the latter.

DEVELOPMENT OF BUSINESS.

Before proceeding further with the discussion of the cost curves and the rates to be installed, a study of the actual conditions existing at Waukesha is necessary. During the year ending June 30, 1913, the respondent sold current to the several services as follows:

Commercial lighting	145,032	kw-hr.
Commercial power	809,730	"
Street lighting	322,647	"
Total	1,277,409	"

It will be seen from these data that over 5½ times as much current is sold for power purposes as for commercial lighting purposes.

Low rates have been in the main responsible for the large power business which has been built up. The company reports that for the year ending June 30, 1913, the average power rate was 2.74 cts. per kw-hr. On the basis of a consumer load factor of 20 per cent the costs show that a rate of at least 3 cts. should be paid. Fully 90 per cent of all power consumption is paid for at rates below this figure, while over 62 per cent of the same consumption is paid for at a rate less than 2.5 cts. per kw-hr. The average cost per kw-hr. for power energy based upon our computations is 3.48 cts. Practically all of the power consumption is paid for at less than this figure.

Several reasons are usually assigned for the giving of lower rates to power service than to lighting service. Among these reasons have been the low demand of power service at the time of the maximum load upon the station, and the desirability of building up the day load. In the case of large installations, however, the reason is largely to be found in the necessities of competition. The central station is forced to meet the costs to the isolated plant of generating current if it is to get the business. But the costs of the central station must be considerably lower on the unit basis than the costs of the isolated plant, for the latter can in many cases use the exhaust steam for heating purposes. This forces the central station, in order to get the business, to supply energy at a rate per kilowatt hour figured on the basis of the actual cost to the isolated plant of generating a unit of electricity minus the saving effected by using the exhaust steam for heating purposes. By far the larger portion of the power consumption in the present case is attributable to industries which cannot use the exhaust steam for the above mentioned purpose; so we must assume that the respondent has endeavored only to meet the cost to these industries of generating their own current. Respondent admits that in several cases this is true.

It must be remembered, however, that where one service does not pay its costs some of the other services must contribute to make up the loss in the form of higher rates if the utility as a whole is to receive a fair return on its investment. The ques-

tion as to how much of these deficits can be equitably charged to the other services, such as street lighting and commercial lighting, must be the issue in this case. This involves a study of the commercial lighting situation at Waukesha.

Lighting Statistics.

The average rate for electric lighting in Waukesha for the year ending June 30, 1913, was 11.5 cts. as contrasted with the average power rate of 2.74 cts. noted above. In Waukesha, despite the heavy sales for power, the commercial lighting service alone contributes 36 per cent of the revenue, the commercial power service contributes but 45 per cent, and the street lighting service contributes the balance or 19 per cent. In other words, the power service, with a consumption of over 5½ times that of the lighting service, contributes only 9 per cent more toward the total revenue of the utility.

The effect of this heavy burden upon the lighting service is shown by the following figures:

TABLE XV.

DEVELOPMENT STATISTICS, COMMERCIAL LIGHTING CONSUMPTION, CLASS A ELECTRIC UTILITIES, 1912.

	Population.			Consumer.		Kw. Connected.
	Consumption per 100 pop.	Consumers per 100 pop.	Kw. connected per 100 pop.	Consumption per consumer.	Kw. connected per consumer.	Consumption per kw. connected.
Weighted av.....	40.73 kw-hr.	6.52	8.83	6.24 kw-hr.	1.36	4.53 kw-hr.
Arithmetic av...	41.64 "	8.96	8.97	4.94 "	1.08	4.93 "
Maximum	85.58 "	16.54	19.67	11.43 "	2.29	13.70 "
Minimum.....	28.62 "	3.49	1.03	2.50 "	.43	2.58 "
Median.....	39.90 "	8.64	8.14	4.48 "	1.06	4.57 "
Waukesha, 1912..	17.98 "	4.61	7.33	3.90 "	1.59	2.45 "
Waukesha, 1913..	16.59 "	5.78	8.15	2.87 "	1.41	2.04 "

It will be seen from these figures that not only has the Waukesha electric utility a smaller number of lighting consumers per 100 population than the average or median class A plant, but the consumption, when compared to the population, is still more unfavorable. The average or median plant in this state has from 2 to 2½ times more sales per 100 population than has the Waukesha plant. In kilowatts connected per 100 popula-

tion the electric plant under review makes a favorable showing with the average utility in the state and the same is true as regards the connected load per consumer, but in regard to consumption per consumer and consumption per kilowatt connected the calculations show than an average plant will sell about twice the energy sold at Waukesha. In other words, the possibility of sale as represented by the connected load is present but the sales have not developed.

We are of the opinion that this condition of affairs is directly attributable in large degree to the rates at present in force. Actual computations show that generally a residence consumer will use his active installation or maximum demand from 1 to 1.5 hours per day. In Waukesha the same service taker will use his active installation only 0.8 of an hour a day on the average. The entire lighting installation, when placed upon an active load basis, shows an average use of only 1.32 hours per day, as contrasted with from 1.5 to somewhat over 2 hours per day for an average plant.

The figures above take into consideration the load factor of the consumer. The schedule in force at present, however, does not consider this important feature of any electric schedule. Leaving aside the regressive features of the company's present rate schedule with their consequent discriminations, it is interesting to note that over 86 per cent of the lighting consumption is paid for at the company's primary rate of 13.5 cts. It would appear that this rate is in itself prohibitory, for consumers will not use such electric appliances as heaters, cookers, irons, fans, etc., where practically no consideration is made in the rate schedule for such use. Not only does such a high rate reflect itself in the matter of securing additional consumers but the consumers already connected will not use, even for ordinary lighting purposes, the normal amount of current. This has already been shown to apply from the figures given in Table XV.

As has been pointed out before, the problem in this case is to determine how much, if any, of the costs ordinarily chargeable to power service should be shifted to the lighting service. As a result of our investigations we are led to believe that because of the peculiar local conditions obtaining at Waukesha a rate based upon a hypothetical cost curve, as shown in Tables XIII and XIV, would be the most equitable.

There can be no doubt but what the large power business now

held by the company will be a material factor in future rate adjustments should the lighting load be built up in the meantime. It can easily be seen that the company by encouraging lighting consumption can build up an excellent load factor.

We must point out that the rate schedule which is made a part of the order in this case does not provide sufficient revenue to pay a fair return on the investment. From our discussion of going value it will be seen that this is still the developmental stage of the electric industry in Waukesha and our rates are really developmental rates. The schedule is designed to take cognizance of the load factor of the consumer.

The following tabulation shows the number of kilowatt hours used for commercial lighting chargeable to the primary, secondary, and excess classes on the basis of hours' use of the active load.

The primary class is based upon the first 30 hours' use per month of the active load; the secondary class is based upon the next 60 hours' use of the active load; and the excess class is based upon all use over 90 hours.

DISTRIBUTION OF COMMERCIAL LIGHTING CURRENT
ACCORDING TO HOURS' USE OF ACTIVE LOAD.

	Primary.	Secondary.	Excess.	Total.
Kw.-hr.	66,213	47,948	30,471	145,032
Per cent.	45.93%	33.06%	21.01%	100%

The following table shows the number of power consumers distributed according to size of installation, the number of connected horse power months, the number of active horse power months and the consumption:

TABLE XVI.
DISTRIBUTION OF POWER INSTALLATION.
WAUKESHA ELECTRIC UTILITY.

Size of installation.	Number of consumers.	Horse power connected.	Total h. p. months.	Per cent active.	Active h. p. months.	Consumption in kw.-hr.
Less than 10 h. p.	43	131.33	1,216.00	90	1,094.40	24,086
10 h. p. to 19 h. p.	5	63.25	639.00	70	447.30	24,716
20 h. p. to 49 h. p.	9	255.20	2,511.40	60	1,506.84	46,612
50 h. p. to 100 h. p.	6	443.40	3,291.16	55	1,810.11	219,164
100 h. p. to 400 h.p.	2	246.50	2,954.40	50	1,477.20	160,220
Over 400 h. p.	1	851.30	9,190.60	40	3,676.24	335,190
Total	66	1,990.98	19,802.56	50.55	10,012.09	809,988

Table XVII shows the net earnings to be derived from the proposed gas rates:

TABLE XVII.

ESTIMATED REVENUE UNDER PROPOSED SCHEDULE.

GAS DEPARTMENT.

35,522 M	cu. ft.	at	$1.20	per	M	cu. ft.	$42,266.40
1,364.9	" "		1.00	"	"		1,364.90
306.6	" "		.90	"	"		275.94
258.1	" "		.80	"	"		206.48
243.1	" "		.70	"	"		170.17
Total gas revenue							$44,283.89
Revenue from minimum bill							1,500.00
Total operating revenue							$45,783.89
Add non-operating revenue							623.58
							$46,407.47

Table XVIII shows the estimated revenue to be derived from the proposed electric schedule:

TABLE XVIII.

ESTIMATED REVENUE UNDER PROPOSED SCHEDULE.

ELECTRIC DEPARTMENT.

Commercial Lighting Revenues		
Primary consumption 66,213 kw-hr. at 12 cts. per kw-hr.	$7,945.56	
Secondary consumption 47,948 kw-hr. at 9 cts. per kw-hr.	4,315.32	
Excess consumption 30,417 kw-hr. at 6 cts. per kw-hr.	1,825.02	
Total com'l. lighting		$14,085.90
Commercial Power Revenues		
Readiness to serve 10,012.09 active h. p. months at $0.75 per active h. p. mo.	$7,509.07	
Output charge—270,017 kw-hr. at 2.5 cts. per kw-hr.	6,750.42	
539.971 kw-hr. at 1.6 cts. per kw-hr.	8,639.54	
Total com'l. power		22,899.03
Street Lighting Revenues		
118 arcs at $74 per arc per year	$8,732.00	
Incandescent lamps present rate	444.80	
Total street lighting		9,176.80
Total revenue from electric sales		$46,161.73
Add:		
Additional revenue from minimum bills		300.00
Non-operating revenue		824.28
Total revenues		$47,286.01

It will be noted from these estimates that while the total revenue of the gas department will have increased some $1,250 over that of the fiscal year ending June 30, 1913, because of the installing of a minimum charge, the electric department will suffer a loss of revenue of some $2,000 because of the rearranging of the schedule in that department. As the company must probably pay increased taxes due to the valuation of its property, we cannot say what the exact loss of revenue will be. We are also uncertain as to the probable increases in revenue arising from increased sales which we anticipate will result from the reduction of the electric lighting rate. In similar rate readjustments in other cities the revenues from increased sales have been considerable.

The order in this case is tentative and if experience shows that certain modifications will be necessary, the necessary adjustments will be made when conditions warrant. At the present time, however, the respondent is not earning sufficient to provide an adequate return on the entire investment and this fact must be borne in mind by all parties to the case.

Because of the fact that one of the complaints in the matter is against the charge made for energy used by the municipality we have endeavored to compute the charge to be made under our ruling in order to compare it with the existing charge. As regards city pumping, although we have no data upon which to base an accurate estimate, such information as we have points to the conclusion that the present rate will be materially reduced. This reduction is attributable to the fact that the load factor of city pumping is relatively high.

The street lighting rates have also been reduced. The rate of $74 per arc per year which is made a part of our order appears to be very nearly the cost of the service but any change in the present system, either by the addition of new lamps or the substitution of a different type of lamp, may affect the charge so made.

HEATING DEPARTMENT.

The heating department has been investigated only in connection with the apportionment of expenses. Since the rates of this utility are not under review, it is not considered necessary to go into detail regarding its operation. As has been shown before, the rate of return in this department is 2.69 per cent and the results in general show that the department is being operated at a loss.

Table XIX gives a summary of the heating sales according to the number of pounds of steam consumed:

TABLE XIX.
DISTRIBUTION OF HEATING CONSUMPTION.
WAUKESHA HEATING UTILITY.
Year Ending June 30, 1913.

	Lb. in first 5,000.	5,000 to 10,000 lb.	10,000 to 20,000 lb.	20,000 to 30,000 lb.	30,000 to 50,000 lb.	50,000 to 100,000 lb.	100,000 to 300,000 lb.	Total.
Exhaust steam...	1,697,000	1,199,400	1,598,900	1,074,400	1,568,700	1,656,000	684,800	9,479,200
Per cent.....	17.90	12.65	16.87	11.34	16.55	17.47	7.22	100
High pressure steam.....	40,000	40,000	80,000	80,000	109,500	53,400	.....	402,900
Per cent.....	9.93	9.93	19.86	19.86	27.17	13.25	.....	100

SUMMARY.

The valuation of the gas and electric utilities as determined by the Commission's engineers has been accepted by the respondent with few exceptions. These have been discussed in some detail and the valuation, in general, upheld. Going value computations have been made exceedingly difficult due to the local conditions surrounding the operation of the plant.

An analysis of the operating statistics and expenses of the gas and electric plants show that neither of the plants is earning excessive profits, in fact, the gas utility is actually losing some $4,000. The schedules of both utilities have been rearranged so as to eliminate all discriminatory features. The resulting schedule in the electric department has been designed to develop business in the way of increased lighting consumption. Such principles as load factor and assessed demand have been given consideration.

The Commission has added to the above schedules a minimum of 75 cts. per month in the electric department and a variable minimum in the gas department.

ORDER.

IT IS ORDERED, That the respondent, the Waukesha Gas and Electric Company, discontinue its present schedule of electric and gas rates and substitute therefor the following:

ELECTRIC RATES.

Schedule of Rates for Incandescent Lighting Service.

For all lighting service furnished residences and business places (hereinafter specifically referred to as classes A, B, C, and D) including such incidental use of appliances for heating or power used on lighting circuits and passing through the same meter and measured by a meter or meters owned and installed by the company, a charge of

Primary rate

12 cts. net or 13 cts. gross per kilowatt hour for current used equivalent to, or less than, the first thirty hours' use per month of active connected load.

Secondary rate

9 cts. net or 10 cts. gross per kilowatt hour for additional current used equivalent to, or less than, the next sixty hours' use per month of active connected load.

Excess rate

6 cts. net or 7 cts. gross per kilowatt hour for all current used in excess of the above ninety hours' use per month of active connected load.

Active connected load shall in each case be a fixed percentage of the total connected load, consisting of lamps, appliances, etc., installed upon the consumer's premises.

In class A are included residences, dwellings, flats, and private rooming houses. Where the total connected load is equal to, or less than, 500 watts nominal rated capacity, 60 per cent of such total connected load shall be deemed active; where the installation exceeds 500 watts nominal rated capacity, 33⅓ per cent of such a part of the total connected load over and above 500 watts shall be deemed active.

In class B, where the total connected load is equal to, or less than, 2.5 kilowatts nominal rated capacity, 70 per cent of such total connected load shall be deemed active; where the installa-

tion exceeds 2.5 kilowatts nominal rated capacity, 55 per cent of such a part of the total connected load over and above 2.5 kilowatts shall be deemed active; provided that lamps used exclusively in space devoted to the storing of goods shall be placed at 20 per cent active and shall not be included in the 2.5 kilowatt hours specified above. Class B shall consist of banks, offices, business and professional (including studios, dressmaking parlors, massage parlors, millinery and hair dressing establishments, and photograph galleries), wholesale and retail merchandise establishments, such as art stores, bakeries, barber shops (including shoe-shining parlors and public baths), book stores, cigar stores, coffee and tea stores, commission stores, confectionery stores (including ice cream parlors), crockery and china stores, dry good stores, drug stores, electrical supply houses, flower stores (including greenhouses), furniture and house furnishing stores, gents' furnishing stores (including hat stores and haberdasheries), grocery stores, hardware stores, harness shops, hay, grain, feed and coal offices and stores, jewelry stores, meat markets, millinery stores, milk depots, paint and wall paper shops, piano and music stores, picture stores, plumbing shops, saloons (including pool and billard halls and adjoining card rooms), shoe stores and shoe repair shops, stationery stores, tailor shops (including dyers, cleaners and clothes pressing establishments), undertakers, upholsterers, and wine and liquor stores, theaters (including nickelodeons, shooting galleries, and similar amusement places), corridors and halls in office and apartment buildings upon separate meter, dance and public halls (including lodge and society rooms), restaurants (including eating places and lunch wagons), depots and public places for the conduct of railroad, street railway, express and telephone business (excluding freight warehouses), and all other consumers not herein otherwise specifically provided for.

In class C 55 per cent of the total connected load shall be deemed active. Such class shall consist of federal, state and county buildings; churches and missions; hotels and clubs; factories (including small industrial establishments such as machine shops, carpenter shops, blacksmith shops, tin shops and cigar factories) closing not later than 6 p. m., private and parochial schools; freight and storage warehouses, and stables and garages, both private, boarding and livery.

In class D 55 per cent of the total connected load shall be deemed active. Such class shall consist of all interior lighting for the city of Waukesha, including commercial alternating current for schools, police and fire station, libraries, hospitals and other city buildings.

Minimum Bill

The minimum monthly rate to be charged under this schedule shall be 75 cts. In cases where the company is unable to read meter after reasonable effort, this fact should be indicated on the monthly bill, the minimum charge assessed, and differences adjusted at the time of the next meter reading.

Discount

The difference between the gross rate and the net rate, or 1 ct. per kilowatt hour shall constitute a discount for prompt payment. The discount period shall be the same as at present.

Lamp Renewals

The same rules regarding lamp renewals as now apply are deemed reasonable under the new schedule.

Reconnection Meters

For the reconnection of meters for the same consumer upon the same premises a charge of $1.00 is deemed reasonable.

Power Rates.

A readiness to serve charge of $0.75 per active horse power shall be assessed to all power users except small installations provided for in the lighting schedule. The percentages used in Table XVI of this decision shall be used to determine the active load of each installation.

The energy charge under this schedule shall be 3½ cts. gross or 2½ cts. net per kilowatt hour for the first 3,000 kilowatt hours used per month, and 1.6 cts. net or 2.6 cts. gross for all over 3,000 kilowatt hours per month.

The difference between the gross and net rate shall constitute a discount for prompt payment.

The minimum and reconnection charges shall apply also to power users.

Street Lighting.

The rate of $74 per arc per year on the present burning schedule seems on the whole to be fair. The rate for such incandescent lights as are now in use should remain as at present.

GAS RATES.

For the first	10,000	cu. ft. per	month or less	$1.20	per	1,000	cu. ft.
" next	15,000	"	"	1.00	"		"
" "	25,000	"	"	.90	"		"
" "	50,000	"	"	.80	"		"
All over	100,000	"	"	.70	"		"

All bills are to be rendered at 10 cts. per M cu. ft. above the foregoing rates and subject to a discount of 10 cts. per M for payment before last day of discount.

Respondent's present discount period shall continue under this rate.

The minimum payment in any one month shall be as follows:

For a	3	light meter	$0.40	For a	60	light meter	$1.00
"	5	"	0.40	"	80	"	1.50
"	10	"	0.50	"	100	"	2.00
"	20	"	0.60	"	200	"	4.00
"	30	"	0.70	"	300	"	6.00
"	45	"	0.85				

The assessment of this minimum shall be according to the rules laid down in the electric portion of this order.

A reconnection charge of $1.00 is deemed reasonable.

LOUIS F. YANKO ET AL.
vs.
PORTAGE AMERICAN GAS COMPANY.

Submitted Nov. 18, 1912. Decided Nov. 18, 1913.

The petitioners allege that the rates charged by the Portage American Gas Co. in the city of Portage are excessive. A valuation was made and the revenues and expenses were investigated. The expenses were apportioned between consumer and output expenses and were further apportioned between commercial and municipal lighting. The business of the utility appears to have about reached its maximum development from the point of view both of the number of consumers and the total sales of gas. Comparison of the unit costs of the utility with those of other coal gas plants in Wisconsin indicates that the utility is efficiently managed.

Although the Commission has no power to determine the taxes to be paid on the property of a utility the Commission must take these taxes into consideration in fixing rates for the services of the utility. Such taxes are a necessary cost of operation and must be provided for out of the revenues of the utility. In the present case the property of the utility has been under-assessed, apparently because of the inability of the city officers to ascertain its true value. Since the value of the property is now determined, however, it appears reasonable to allow a considerably larger amount for taxes than the amount paid in 1912.

The minimum bill should be so constructed as to cover (1) consumer expense and (2) the cost of gas used in small quantities. The respondent now makes a minimum monthly charge of 13 cts. Analysis of costs shows that the respondent should adopt a schedule providing for a minimum bill of 25 cts. for a 3 light meter, and larger amounts for meters of larger size.

Held: The rates charged by the respondent for commercial service require revision. The respondent is therefore ordered to put into effect a schedule of rates determined by the Commission. Power service, which is of little or no importance in the business of the respondent, is to be charged for at the same rates as commercial service. The present rates for street lighting are reasonable and will be left unchanged.

The complaint in the above entitled matter was filed with the Commission September 15, 1911, alleging excessive rates for gas sold in the city of Portage and praying that the Commission order such rates as may be found to be just and reasonable.

Hearing was held at the office of the Commission at Madison, November 18, 1912, and the following appearances were entered:

William O. Kelm for petitioners, and *M. A. Jacobson* for respondent.

The rates on file with the Commission are as follows:

Illuminating and Fuel Gas.

Minimum monthly bill, 13 cts.

1,000 to 15,000 cu. ft.	$1.30	per M cu. ft.
15,000 to 25,000 cu. ft.	1.25	" "
25,000 to 50,000 cu. ft.	1.15	" "
50,000 to 100,000 cu. ft.	1.00	" "
100,000 cu. ft. and over	.80	" "

Power Gas.

Minimum monthly bill 13 cts.

100 to 5,000 cu. ft.	$1.30	per M cu. ft.
5,000 cu. ft. and over	1.00	" "

Street Lighting.

84 Welsbach street lamps, $23.81 per lamp per year, all night and every night.

VALUE OF PLANT AND BUSINESS.

A valuation of the physical property of the Portage American Gas Company was made by the engineering staff of the Commission, as of date June 30, 1912.

TABLE I.

VALUATION OF PHYSICAL PROPERTY.

PORTAGE AMERICAN GAS COMPANY.

June 30, 1912.

Classification.	Cost new.	Present value.
A. Land	$4,000	$4,000
B. Transmission and distribution	54,438	42,773
C. Buildings and miscellaneous structures	7,793	4,937
D. Plant equipment	31,447	25,015
E. General equipment	2,536	1,733
Total	$100,214	$78,458
Add 12 % (see note below)	12,026	9,415
Total	$112,240	$87,873
F. Paving		
Total	$112,240	$87,873
H. Material and supplies	5,863	5,215
Total	$118,103	$93,088

NOTE:—Addition of 12 % to cover cost of engineering, superintendence, interest during construction, contingences, etc.

The chief question considered at the hearing was that of the determination of the cost of developing the business. No objection was raised by either party to the final valuation of the

physical property as made by the engineering staff of the Commission. It was brought out that the development cost could not be determined on the investment basis because of abnormal items which would bring such costs far above normal and make the computations worthless for the determination of a fair value of the property. A value based upon the cost of reproduction is likewise affected by certain abnormal items of the same character and hence is subject to the same objections. It appears, however, that when all phases of operation are considered a fair value of approximately $105,000 will be reasonable for the purposes of this case.

OPERATING STATISTICS.

The gas produced is coal gas. The following table shows the comparative gas accounts for several years:

TABLE II.
GAS ACCOUNT.
PORTAGE AMERICAN GAS CO.

	1909-1910	1910-1911	1911-1912
Gas on hand first of year	28,000	54,000	63,000
Gas made during year	20,109,700	21,733,100	22,167,900
Total gas to account for	20,137,700	21,787,100	22,230,900
Gas on hand close of year	54,000	63,000	64,000
Gas delivered to mains	20,083,700	21,724,100	22,166,900
Gas sold	18,799,800	20,876,200	21,174,000
Gas used by company	267,100	271,400	335,000
Total gas used and sold	19,066,900	21,147,600	21,509,000
Gas unaccounted for	1,016,800	576,500	657,900
Per cent unaccounted for	5.05	2.94	3.00

The following table will serve as a basis for determining the extent to which the business has been developed:

TABLE III.

Year.	Cubic feet commercial sales per annum.	Commercial consumers.	Cubic feet sales per consumer per annum.	Cubic feet sales per consumer per month.	Consumers per 100 population.
1910	17,185,000	1,067	16,106	1,342	19.2
1911	19,292,000	1,141	16,908	1,409	20.6
1912	19,582,000	1,177	16,637	1,387	21.2

From the facts in this table it appears that there is little possibility of a much more extensive development of the business from the standpoint of the number of consumers. The average number of consumers per 100 population for all class A gas utilities in the state is slightly over 12, while in this case the number per 100 population has been practically 20 for the past three years.

The sales per consumer, however, are below the normal. The average sales per consumer per month for the class A gas utilities of the state is approximately 1,700 cu. ft., while the sales of the Portage American Gas Company average 1,387 cu. ft. The explanation of this difference may be found in the number of consumers. The large number of consumers per 100 population, as pointed out above, naturally means the inclusion of a greater number of small users and causes the average sales per consumer to be correspondingly less. From these facts it seems that the total consumption of gas cannot be expected to increase materially, either because of the utility securing a larger number of consumers or by increasing the annual consumption of the users being served.

REVENUES AND EXPENSES.

TABLE IV.

COMPARATIVE INCOME ACCOUNT.

PORTAGE AMERICAN GAS COMPANY.

	Year Ending June 30,		
	1910	1911	1912
Operating revenues.			
Commercial earnings	$22,319 55	$25,272 52	$25,487 67
Power earnings	52 21		
Municipal contract lighting earnings	2,079 81	2,060 46	2,066 83
Total earnings from gas	$24,451 57	$27,332 98	$27,554 50
Earnings from residuals	7,014 34	8,643 15	7,799 19
Total operating revenues	$31,465 91	$35,976 13	$35,353 69
Operating expenses.			
Production	$17,353 51	$16,903 64	$17,030 45
Distribution	1,071 04	1,533 66	1,436 00
Municipal contract lighting	661 63	725 28	775 36
Commercial	889 52	782 92	570 91
General	2,393 26	3,007 22	3,609 45
Undistributed	56 78	108 96	189 13
Total of above items	$22,425 74	$23,061 68	$23,611 30
Taxes	520 00	510 02	520 18
Total above expenses	$22,945 74	$23,571 70	$24,131 48
Net above	$8,520 17	$12,404 43	$11,222 21
Non-operating revenues	211 51	137 74	404 97
Total remaining for interest, profits and depreciation	$8,731 68	$12,542 17	$11,627 18

It will be noted that the total operating expenses fluctuated but slightly during the three years under consideration. For the purpose of determining the efficiency of operation of the company a comparison of the operating costs per M cu. ft. of gas sold has been made with that of other companies. This comparison is shown in the next table. In arriving at the minimum, maximum, average, and median for each item shown in this table the costs of 13 gas utilities, 9 of which are class A and 4 class B, were considered. The selection was made in this manner for the purpose of securing a sufficient number of coal gas utilities to serve as a basis for a fair comparison.

TABLE V.

UNIT COSTS GAS UTILITIES.

	Sales per annum in cubic feet.	Costs in Cents per M Cubic Feet Sold.									Residuals per M cu. ft. made.	Yield per pound of coal in cu. ft.	Cost per ton of coal.	Per cent of gas un-
		Production.	Distribution.	Municipal contract lighting.	Commercial.	General.	Undistributed	Total without deducting residuals.	Total deducting residuals.	Taxes.				
Minimum	8,780,800	0.680	0.022	.....	0.011	0.062	0.009	0.951	0.547	0.025	0.061	4.49	3.34	3.0
Maximum	90,779,600	1.061	.115	.....	.102	.201	.053	1.347	1.147	.107	.491	5.30	4.85	15.8
Average	35,873,900	.844	.064	.....	.051	.140	.028	1.133	.762	.066	.333	4.87	4.13	10.1
Median	27,732,000	.812	.068	.....	.052	.151	.026	1.116	.700	.064	.352	4.76	4.18	10.3
Portage, 1911	20,876,200	.810	.073	0.0	.038	.144	.005	1.105	.735	.024	.414	4.8	4.375	2.9
1912	21,174,000	.805	.068	.037	.027	.170	.009	1.116	.747	.025	.352	4.8	4.35	3.0

The results of the comparison seem to indicate that the Portage American Gas Company is being managed efficiently. All costs per M cu. ft. of gas produced are normal for both 1911 and 1912. It is to be noted particularly that the gas unaccounted for by this company amounts to only 3 per cent. This is the minimum for the utilities under consideration. From this low percentage of loss in distribution it might, at first, appear that a larger amount of gas was produced and delivered to the mains than is actually recorded, thereby decreasing the percentage of gas unaccounted for. If this were the situation, however, the effect would be reflected in the production costs and also in the yield of gas per pound of coal. The production cost per M cu. ft. of gas sold would be less than the apparent cost, and the yield of gas per pound of coal would be greater than the apparent yield. This, however, does not appear to be the situa-

tion. The cost of "Production" for the two years 1911 and 1912 is lower than both the average and median for the coal gas utilities shown in the table. Furthermore, the yield per pound of coal is also normal, being 4.8 cu. ft. for each of the last two years. The total operating expenses, both before and after deducting residuals, compare favorably with the average and median. It is to be noted that the production costs as well as the total expenses are normal even though the cost of coal is considerably higher than the average and median.

The Portage American Gas Company pays the minimum amount of taxes per M cu. ft. of gas sold. The amount paid in 1912 was $520.18. The reason for such low taxes apparently was the fact that the city officers were unable to ascertain the true value of the property. It appears that it is the intention of the city officials to make the utility pay taxes in conformity with the other assessed values of the city. Since the value of the property has been determined, it seems only equitable that this should be done. Although the determination of what the taxes shall be is a matter over which the Commission has no jurisdiction, the Commission must consider the amount of taxes a utility is required to pay in determining rates which are fair to both the consumer and the utility. Taxes constitute one of the necessary costs of operation, and must be provided for out of the revenues of the utility. From the value of the property and the local assessment policy it appears that a reasonable allowance for taxes in this case would not be far from $1,400.

Depreciation has been computed on the cost new of the utility. The annual allowance required to meet the element of depreciation is $2,244. This is equal to 2 per cent on $112,240 cost new as shown in Table I.

Interest and profits computed at 7½ per cent on the fair value of the property amount to $7,875. This is deemed a reasonable allowance under the operating conditions as found in the city of Portage.

The following table shows the net expenses together with an allowance for interest, taxes and depreciation. The net operating expenses are determined from the operating costs of the company for the fiscal year ending June 30, 1912.

TABLE VI.

Production expenses		$17,030.45
Distribution expenses		1,436.00
Municipal contract lighting		775.36
Commercial expenses		570.91
General expenses		3,609.45
Undistributed expenses		189.13
		$23,611.30
Deductions		
Earnings from residuals	$7,799.19	
Gas used by company	302.76	
Non-operating revenues	404.97	
		8,506.92
Net expenses		$15,104.38
Taxes		1,400.00
Depreciation		2,244.80
Interest		7,875.00
Total operating expenses		$26,624.18

The revenues derived from the consumers of gas must be sufficient to meet the total operating expenses as shown here. This amount includes both municipal and commercial lighting.

The total operating expenses were first apportioned between consumer and output expenses in the usual manner and then distributed between commercial and municipal lighting. From the operating conditions as found in Portage it appears that the revenues from municipal contract lighting are not unreasonable at present, from the viewpoint either of the city or the company. The total expenses to be met by commercial earnings amount to $24,557.35. Of this amount $5,325.83 were found to be consumer expenses and $19,231.52 output expenses.

The following table shows the unit costs for commercial consumption, based upon the consumer and output expenses as shown above:

TABLE VII.

UNIT COST OF COMMERCIAL CONSUMPTION.

M cu. ft. per month	Consumer cost per consumer	Output cost 0.9821 per M	Total cost	Total cost per M cu.ft.
1	$0.45	$0.9821	$1.43	$1.43
2	.45	1.9642	2.414	1.207
3	.45	2.9463	3.396	1.132
4	.45	3.9284	4.3784	1.095
5	.45	4.9105	5.3605	1.072
10	.45	9.821	10.271	1.027
25	.45	24.553	25.003	1.000
100	.45	98.21	98.66	.987
250	.45	245.525	245.975	.984
300	.45	294.63	295.08	.983

From an analysis of the sales statistics of other plants operating under similar conditions and an analysis of the cost curve as shown in Table VII, it appears that the schedule which properly meets the conditions would consist of a rate of $1.30 per M for the first 2 M cu. ft. used per month, $1.20 per M for the next three M, $1.10 for the next 5 M, $1.00 per M for the next 10 M, and $0.90 per M for all gas sold in excess of 20 M.

TABLE VIII.

ESTIMATE OF REVENUE FROM GAS SALES UNDER PROPOSED RATES.

Groups.	M cu. ft.	Per cent of total gas sold.	Rate per M.	Estimated revenue derived.
First 2 M cu. ft. per month.....	13,707,960	70	1.30	$17,820 35
Next 3 " " " "	3,916,560	20	1.20	4,699 87
Next 5 " " " "	783,310	4	1.10	861 67
Next 10 " " " "	1,174,970	6	1.00	1,174 97
All over 20 " " "	.....	.....	.90	.....
Total.....	19,582,800	100	.....	$24,556 86

The foregoing estimate shows what revenues might be expected under the proposed rates when applied to the consumption statistics for the year ending June 30, 1912. Exclusive of revenues from minimum bills, the estimated revenue from gas sold approximately equals the total commercial gas cost for the year under consideration. The revenues from minimum bills may be expected to amply cover any deficiency in the estimated revenues as shown above.

MINIMUM BILL.

The rate schedule of the respondent now in effect provides for a minimum monthly charge of 13 cts. The minimum bill should be so constructed that it will cover consumer expense and the cost of gas used in small quantities. In considering these facts, it seems that the charges for this purpose may be placed as follows:

Size of meter.	Amount to be charged each month.	Size of meter.	Amount to be charged each month.
3 light.....	$0 25	60 light.....	$1 00
5 "	25	80 "	1 50
10 "	35	100 "	2 00
20 "	50	200 "	4 00
45 "	60		

Power Gas.

The records of the company show earnings from this source amounting to $52.21 for 1910. No power earnings are reported for 1911 and 1912. It does not appear necessary to establish a separate rate schedule for power gas under these conditions. All charges which may be necessary for this class of service may be included under the rates outlined for commercial gas.

Street Lighting.

From the analysis of the operating expenses, and consideration of the operating conditions as found in Portage, it seems that the street lighting rates should be left as now established and in effect.

ORDER.

It is Therefore Ordered, That the Portage American Gas Company discontinue its present schedule of rates in the city of Portage and put into effect the following schedule of rates:

Gas for All Purposes (except Street Lighting).

First	2,000	cu. ft. of gas per month	.....	$1.30	per M.
Next	3,000	" " "	.....	1.20	"
Next	5,000	" " "	.....	1.10	"
Next	10,000	" " "	.....	1.00	"
All over	20,000	" " "	.....	.90	"

The minimum bill shall be as follows:

Size of meter.	Amount to be charged each month.	Size of meter.	Amount to be charged each month.
3 light.....	$0 25	60 light.....	$1 00
5 "	25	80 "	1 50
10 "	35	100 "	2 00
20 "	50	200 "	4 00
45 "	65		

Street Lighting.

The street lighting rate shall remain as it is now established and in effect, that is, the rate shall be $23.81 for each Welsbach street lamp for all night and every night service.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF THE MILL STREET CROSSING AT LA CROSSE, WISCONSIN.

Submitted Aug. 11, 1913. Decided Nov. 19, 1913.

The Commission, on its own motion, investigated the advisability of revising the order issued Jan. 2, 1912 (8 W. R. C. R. 422), in the matter of the Mill street crossing at La Crosse. This order required the construction at Rose street of a viaduct conforming to certain specifications and provided for the division of the expense between the C. M. & St. P. Ry. Co. and the city of La Crosse. Actual work under the order has been deferred from time to time upon request of city officials who have proposed various means other than the remedy ordered by the Commission for eliminating the dangerous conditions now existing at Mill street. The means proposed include: the construction of a subway at Rose street; the construction of a viaduct at Mill street; the construction of a subway and the elevation of the railroad tracks at Mill street; a general elevation of the railroad tracks and the construction of subways at Mill and certain other streets; and the relocation of the railroad to avoid the present crossings with the streets of the city.

Held: In view of the present and future needs both of the city and the railway company and the relative expense of making the various alterations proposed, it is advisable to construct a viaduct at Rose street as originally ordered. The apportionment of the expense in the original order, however, appears, in the light of more accurate estimates now available, to be unfair to the city. It also appears desirable to reapportion the work of construction, if the cost is reapportioned. It is therefore ordered that the viaduct be constructed in accordance with specifications set forth and that the C. M. & St. P. Ry. Co. bear 60 per cent, the city, 25 per cent, and the Wisconsin Ry. Lt. & P. Co. 15 per cent of the expense incurred. The Wisconsin Ry. Lt. & P. Co. is, with the permission of the city, to change its distribution system so as to operate its cars over the new viaduct instead of over Mill street. The city is to assume responsibility for damages to adjacent property or business arising from the issuance or enforcement of the order or from the proper prosecution of the work ordered. The C. M. & St. P. Ry. Co. is to maintain such portion of the bridge and its approaches as lies within its right of way limits except the planking and pavement on the roadway and the sidewalk, which the city is to maintain. The remainder of the structure is to be maintained by the city. The Wisconsin Ry., Lt. & P. Co. is to maintain its tracks and power distribution system, including those portions upon the viaduct and its approaches.

MODIFICATION OF THE ORDER OF JANUARY 2, 1912, REQUIRING THE RECONSTRUCTION OF THE ROSE STREET VIADUCT.

An order was entered in the above entitled proceeding on January 2, 1912. (8 W. R. C. R. 422.) Actual work under this order has been deferred from time to time upon request of city officials, who have proposed various means other than the remedy ordered by this Commission for eliminating the dangerous conditions now existing at Mill street. A hearing was held in the city hall at La Crosse on August 11, 1913, at which the following appearances were entered:

O. J. Sorenson, mayor, *G. P. Bradish,* city engineer, and *J. E. Highbee,* city attorney, for the city of La Crosse; *C. A. Lapham,* dist. engineer, for the C. M. & St. P. Ry. Co.; *P. Valier* for the Wisconsin Railway, Light and Power Company (La Crosse City Railway Company).

The following methods have been suggested for providing a safe crossing over the tracks of the Chicago, Milwaukee & St. Paul Railway at North La Crosse:

1. Renew the Rose street viaduct with a permanent structure designed to accomodate the street railway and with easy approach grades to attract vehicular traffic. This is the remedy already ordered by the Commission.
2. Construct a subway at Rose street.
3. Construct a viaduct at Mill street.
4. Construct a subway at Mill street, raising the railroad tracks four feet above their present elevation at that street.
5. Make a general raise of track on the Chicago, Milwaukee & St. Paul Railway and construct subways at Mill street, Caledonia street, Avon street, and Berlin street.
6. Change the line of the Chicago, Milwaukee & St. Paul Railway to a position south of the present location, crossing the bottom of the La Crosse river and avoiding all of the present crossings with the streets. Mill street would be crossed at a point south of the present crossing and at that point a subway should be provided.

In choosing between these methods, consideration must of course be given to the cost of the proposed work and to the effect each of these methods would have upon the future plans both of the city and of the railway company. From the city's viewpoint, it may be assumed that further separation of grades, probably by means of subways, will be required at some time in

the future. From the viewpoint of the railway company it may be desirable to improve the approach to the Black river bridge, probably by raising the tracks. The aim should be to choose a method that will not hamper either of these plans and at the same time will be economical.

Subway at Rose street. Method 2 may be eliminated from consideration at the outset. Rose street has natural advantages that would recommend it as the site for an overhead crossing, but it is not so favorably situated as Mill street for the construction of a subway. If a subway is to be constructed it should be at Mill street, as it would probably be used to a greater extent if located there than if built at Rose street and the cost would be less.

Viaduct at Mill street. Method 3 is not regarded with favor by any of the representatives of the city. A viaduct would be visible as an obstruction from a long distance away on Mill street, resulting, probably, in the diversion of a considerable portion of the traffic to other crossings. It would shut off light from adjacent property and probably cause high property damages. Mill street has not the natural advantages in favor of a viaduct that are possessed by Rose street and the cost of the structure would be about $30,000 more than the cost of a viaduct at Rose street.

Relocation of Chicago, Milwaukee & St. Paul Railway. Method 6 was mentioned at the hearing. There is little to recommend the idea at present. The cost would be great, as it would involve buying new right of way, filling in the low lands, and the removal and reconstruction of a number of buildings and several miles of track. In addition there would be crossings between the new line and the existing railroads; probably more or less trouble in crossing the La Crosse river or changing its bed; and finally there would still be a crossing with Mill street to take care of, although it would be in a new position. It is claimed for this method that it would settle permanently the crossing problem at North La Crosse, but this conclusion does not appear to be justified by the conditions. It is true, that as the streets exist at present, it might be possible to relocate the railway so as to avoid all street crossings except the one with the Mill street causeway, but it seems reasonable to assume that the growth of the city will make additional causeway or cause-

ways necessary at some time in the future and that such causeway or causeways will again bring up the crossing problem. Furthermore, it is probable that after the railway had relocated its tracks and had filled in a large portion of the low lands for its yards, the streets would gradually creep up to the tracks and a demand be made for crossings. In short, while this scheme would require large expenditure and take a long time to carry out, it would result merely in a postponement of the crossing problem and not in its final solution.

General track elevation. Method 5 would settle the crossing problem permanently and at the same time give the railway company a chance to improve the approach to the Black river bridge. It would be the proper method to adopt if conditions justified the expense that would be involved.

This scheme was investigated by the engineering staff of this Commission and the following statement is taken from the report made upon the matter:

"The * * * plan is feasible but is not to be recommended at the present time. The cost of track elevation through this district would be enormous. The drawings show that the damage to adjoining property resulting from track elevation would be very heavy. The railway company would suffer severely if the tracks were elevated. The roundhouse, coal shed, coal trestle, boiler house, water tank, hose house, oil house, stockyard and depot, in fact all of the railway company's terminal buildings would be completely bottled up. Grades on all tracks leading to the roundhouse, coal sheds, boiler house, etc., would necessarily be very heavy in order to connect with the elevated tracks."

The above statement indicates that track elevation at this point would not be a simple matter, but would involve reconstruction of the railway company's plant in addition to the raising of the track. This would add greatly to the expense involved and to the time necessary for the completion of the work.

No detailed estimate has been worked out for this scheme, but a rough estimate indicates that the cost would closely approach the sum of $1,000,000. It may be stated positively that present conditions do not justify any such expenditure, the interest on which at 5 per cent would be $50,000 per year. This interest in two years would more than pay the cost of building a

permanent bridge at Rose street, and in four years would pay for a subway at Mill street. From an estimate based upon traffic studies made at Mill street and Rose street, it appears that about 2,000,000 people cross the tracks in one direction or the other each year. This estimate includes the traffic on all of the streets that are open. The interest charges therefore amount to 2½ cts. per person every time one crossed the track.

There is only one connecting highway between La Crosse and North La Crosse, namely the Mill street causeway. This is ample to accomodate all of the traffic between the two portions of the town at present, and probably will be ample for some time to come. With the traffic thus restricted to one causeway it follows that one safe crossing over or under the tracks should be sufficient. The only reason for additional crossings at the present time would lie in the convenience they would be to people living in the immediate vicinity of such crossings. Combining the traffic of Mill street and Rose street we have:

Pedestrians	3	every	2	minutes
Bicycles	1	"	2	"
Teams and autos	1	"	1	"
Street cars	1	"	4	"

While this traffic is sufficient to demand a separation of grades, it is not heavy enough to congest a single crossing. From an economic standpoint, it would be an extravagance to provide more than one crossing at this time.

Mill street subway. The choice narrows down to the two projects that have received the most consideration, namely, a viaduct at Rose street or a subway at Mill street. From the standpoint of cost the two projects compare as follows:

1. Mill street subway with a raise of railway tracks of 4 feet at Mills street and using 4 per cent grades on the subway approaches	$182,000
2. Rose street viaduct designed for double track street railway and with 4 per cent grades on the approaches	83,000

These figures are based upon the best information available at this time. Both the city and the railway company have submitted estimates which have been checked and compared with the Commission's figures in order to arrive at as close an estimate as possible.

The arguments for the subway at Mill street are: (1) the street crossings at Mill street and Rose street are so close together that eventually, as grade separation proceeds, one or the other will probably be closed and it will be advisable to close Rose street rather than Mill street; (2) a greater portion of the traffic would use the Mill street subway than could be induced to use a viaduct at Rose Street; (3) the subway would settle the crossing problem at Mill street permanently.

In regard to the first point, it will be shown later in this discussion that if the general track elevation does not come within fifteen years it will be more economical to build the viaduct at Rose street and abandon it when the tracks are elevated than to build the Mill street subway now and pay interest on the $100,000 extra investment for fifteen years.

The second point is discussed in the previous opinion of the Commission, 8 W. R. C. R. 427. Up to the time it was closed, the old Rose street viaduct, in spite of its heavy approach grades, carried a traffic that compared better than would be expected with the traffic at Mill street, and it is only reasonable to suppose that a more substantial structure with easier approach grades would increase the traffic on Rose street. The street railway traffic, which is the element of greatest danger, can be removed entirely from Mill street to Rose street and with the street railway removed the probabilities of accident at Mill street will be reduced to such an extent that the danger at Mill street will be no greater than at the majority of grade crossings.

It is argued that a subway at Mills street would "force" at least 80 per cent of the travel, between the north side and the south side, under the tracks and that this dangerous crossing would be "eliminated" altogether, whereas a viaduct at Rose street would merely reduce the danger at Mill street. In answer it may be stated that there always will be a certain portion of the traffic that cannot be diverted either over the viaduct or through the subway. To this class belong the vehicles loaded to capacity and bicyclists, which traffic naturally avoids grades and seeks a level route. If a viaduct is built at Rose street this class of traffic will likely seek the level route across Mill street. If a subway is built at Mill street it will likely seek the level crossing at one of the streets lying to the east.

There is another class of traffic that would probably use a

viaduct at Rose street, but which would not use the subway at Mill street. This class would include the people who, on account of the street railway operating through the subway, would not care to drive their teams and automobiles through the comparatively narrow roadway that would be necessary in this particular subway. This class would be apt to contain the women drivers and is in greater need of a safe crossing than any other class.

It is plain, therefore, that while a subway at Mill street would certainly "eliminate" the grade crossing itself, it would not necessarily eliminate the possibility of accident which really is the vital thing concerned. The possibility of accident to that portion of the traffic that, for one reason or another, refused to use the subway, would not be eliminated but would be merely transferred to another crossing.

Although a viaduct at Rose street will not "eliminate" the Mill street crossing, it will reduce the possibility of accident at that crossing to a normal degree, at the same time affording a safe crossing for all classes of traffic that desire safety.

Taking up the third point, it should be borne in mind that the subway we are now considering is much more of a hole in the ground than the subways that would be necessary if the scheme of general elevation were carried out. The four foot raise of track is really not enough if subways are to be constructed. It puts the subway so deep into the ground that it is hard to drain and to keep dry, and furthermore, it requires long approaches. These long approaches with their heavy grades will be a handicap to the traffic so long as the subway exists. If general track elevation comes later the other subways will, or at least should, be less deep, and the traffic will naturally abandon Mill street and flow through the newer and less objectionable subways. The Mill street subway as proposed is, in fact, a very expensive *temporary* expedient.

Rose street viaduct. There is a difference in cost between the Rose street viaduct and the Mill street subway of almost $100,000 in favor of the Rose street viaduct. At 5 per cent the annual interest on the Rose street investment would be less by $5,000 than the interest on the investment necessary at Mill street. Without compounding the interest, the saving on the interest charges would pay for the viaduct in seventeen years.

In other words, if it were a certainty that conditions at the end of seventeen years would demand that the Rose street viaduct be removed and a general track elevation carried out, there would be, even under such conditions, no loss involved by the building of a viaduct rather than a subway. If the interest be compounded and a salvage value assumed for the steel work of the viaduct, the period indicated will be reduced considerably, which will be still further to the advantage of the Rose street plan. It seems safe to assume that the Rose street viaduct would answer all needs for at least fifteen years. If it were not removed for twenty or twenty-five years, there would be a decided economy in the adoption of the viaduct plan.

The only conclusion that can be drawn from these facts and figures is that the proper thing to do at this time is to carry out the original order of this Commission insofar as it relates to the construction of a viaduct at Rose street.

Early figures that were submitted to this Commission indicated that an equitable division of the cost of this work could be made by apportioning to the Chicago, Milwaukee & St. Paul Railway that portion of the work lying within its right of way limits, and to the city that portion of the work lying outside of the right of way limits. The more accurate estimates now available make this division unfair to the city, and the apportionment will therefore be made upon a percentage basis. Because of the change in the apportionment of the cost it has seemed best to reapportion the work also.

IT IS THEREFORE ORDERED, That the viaduct, or overhead bridge, across the tracks of the Chicago, Milwaukee & St. Paul Railway Company at Rose street be reconstructed in conformity with the following general requirements:

SECTION 1. *Specification:* Specifications for *Steel Work, Plain* and *Reinforced Concrete* and *Creosoted Timber* will conform to the recommended practice of the American Railway Engineering Association, except in regard to *Loading*. *Paving* will be laid in accordance with the standards of the city of La Crosse insofar as such standards are available, otherwise in accordance with the best present day practice.

SECTION 2. Paragraph 1. The loading on the sidewalks shall be assumed to be 100 lb. per square foot.

Paragraph 2. The loading on the roadway shall be assumed

to be a line of fully loaded street cars on each track, or one 15 ton traction engine on any part of the roadway. The space not occupied by the above alternative loads shall be assumed to be loaded with 100 lb per square foot. Each street car will weigh, fully loaded, 40 tons, measure 9′ by 46′ over all and rest upon two trucks spaced 22′ center to center. Each truck will have two axels spaced 4′6″ center to center. The traction engine is to have axles spaced 12′ center to center and gauge of 7′. Three quarters of the load will be on the rear axel.

Paragraph 3. Impact will be computed by the equation:

$$I = S \frac{150}{L + 300} \text{ where}$$

I = Impact increment to be added to the live load stresses.
S = Computed maximum live load stress.
L = Loaded length of bridge in feet that produces maximum stress in the member.

SECTION 3. *Roadway:* Paragraph 1. Provision shall be made for a double line of tracks for the street railway, spaced 11′ center to center. This spacing shall be increased where there is a center truss between the tracks, so as to give at least six inches clearance between the car and the truss.

Paragraph 2. The width of the roadway on the bridge and approaches shall be 36′0″.

SECTION 4. *Sidewalks:* There shall be an 8′ sidewalk on each side of the structure.

SECTION 5. *Grades:* Paragraph 1. The elevation of the roadway on the new bridge shall be the same as the elevation on the old structure, namely, 22.1 feet above the present top of rail on the westbound main line track of the Chicago, Milwaukee & St. Paul Railway at the center line of Rose street.

Paragraph 2. The grades on the roadways of the approaches shall be 4 per cent; vertical curves, 40 feet long, shall be used to connect grades.

Paragraph 3. The sidewalks shall descend from the ends of the span on whatever grade may be necessary in order that they may intersect the present established sidewalk grades at the south line of Island street and at the north line of St. Andrews street.

Paragraph 4. Island street and St. Andrews street will not have direct connection with the approaches to the viaduct.

SECTION 6. *Construction:* Paragraph 1. The plans for the entire work shall be prepared by the Chicago, Milwaukee & St. Paul Railway Company and shall be submitted to the Commission for approval before any work is commenced.

Paragraph 2. The construction of the viaduct and its approaches, including filling and grading, shall be done by the Chicago, Milwaukee & St. Paul Railway Company.

Paragraph 3. The paving upon the viaduct and its approaches shall be laid by the Chicago, Milwaukee & St. Paul Railway Company. The paving disturbed in tearing up and relaying the street railway tracks shall be replaced by the Wisconsin Railway Light and Power Company. Any other paving that may be necessary shall be done by the city of La Crosse.

SECTION 7. Paragraph 1. The Wisconsin Railway, Light and Power Company, with permission from the city of La Crosse, shall make the necessary changes in its distribution system so that it may operate its cars over the new viaduct instead of over Mill street. This shall include the laying of track and the construction of the necessary power distributing system upon the viaduct and its approaches.

Paragraph 2. The city of La Crosse shall grant permission to the Wisconsin Railway, Light and Power Co. to make the necessary changes in its tracks and power distributing system so that it may operate its cars over the new viaduct instead of over Mill street.

SECTION 8. The city of La Crosse shall assume responsibility for any alleged damages to adjacent property or business, caused by the issuance or enforcement of this order or by the proper prosecution of the work herein ordered.

SECTION 9. The city of La Crosse shall do all that part of the work made necessary by this order that is not specifically laid upon the Chicago, Milwaukee & St. Paul Railway Company or upon the Wisconsin Railway, Light and Power Company.

SECTION 10. *Maintenance:* Paragraph 1. The Chicago, Milwaukee & St. Paul Railway Company shall maintain such portion of the bridge and its approaches as lies within its right of way limits, except that the city of La Crosse shall maintain the planking and pavement on the roadway and the sidewalks.

The remainder of the structure shall be maintained by the city of La Crosse.

Paragraph 2. Nothing herein contained shall be held to interfere with any arrangements that have been made or that may be made between the city and the Wisconsin Railway, Light and Power Company in regard to the maintenance of pavement.

Paragraph 3. The Wisconsin Railway, Light and Power Company shall maintain its tracks and power distributing system, including those portions upon the viaduct and its approaches.

SECTION 11. *Apportionment of cost:* All expense incurred in carrying out the provisions of this order shall be apportioned among and borne by the three parties concerned as follows:

Chicago, Milwaukee & St. Paul Ry. Co	60 per cent.
City of La Crosse	25 per cent.
Wisconsin Ry., Light & Power Co	15 per cent.

except that the cost of any materials used in carrying out the changes ordered under sec. 7 shall not be considered a part of the expense to be apportioned, but shall be borne by the Wisconsin Railway, Light and Power Company at its own expense.

SECTION 12. Nine months is deemed a reasonable length of time within which to comply with the provisions of this order.

IN RE DETERMINING AND FIXING A JUST COMPENSATION TO BE PAID TO THE ANTIGO WATER COMPANY BY THE CITY OF ANTIGO FOR THE PROPERTY OF SAID COMPANY ACTUALLY USED AND USEFUL FOR THE CONVENIENCE OF THE PUBLIC.

Submitted Feb. 13, 1913. Decided Nov. 19, 1913.

This is a proceeding to determine the just compensation to be paid in the purchase of the property of the Antigo W. Co. by the city of Antigo. Valuations made by the engineers of the Commission and by the city are considered. The water company submits no valuation of the property as a whole, but introduces testimony tending to show the existence of a high going value or developmental cost and contends that the unit prices placed on the items of physical property in the valuation should be higher than the prices used by the engineers of the Commission. The city's valuation is, on the whole, somewhat lower than the Commission's tentative valuation.

Both the actual investment and the cost of reproduction should be considered in finally fixing the value of a utility, but it is hardly to be expected that physical valuations designed to show two materially different sets of facts should coincide very closely. The valuation submitted on behalf of the city is indicative of what the investment was or might normally have been, but it does not show what it would actually cost to reproduce the property. The tentative valuation made by the engineers of the Commission, on the other hand, is based on averages of prices for a number of years prior to the date of the valuation and therefore indicates the cost of reproducing the property rather than the actual amount which the property has cost.

The actual investment in the property under consideration is indicated by the records of construction, a part of which were made a matter of record in the case of *Hill v. Antigo W. Co.* 1909, 3 W. R. C. R. 623. Inasmuch, however, as the company has not provided a depreciation reserve nor disclosed in its reports the method employed in accounting for reconstruction work, it appears that reconstruction must have been handled as a charge to property and plant, and that the actual cost of the plant is overstated by the amount of such reconstruction. This fact must be considered in accepting as an indication of the value of the property the original cost of the property as shown by the company's records.

In addition to the physical property, the cost of developing the business must be given consideration. In the present case this cost is computed separately for interest rates of 6 and 7 per cent upon the original cost of the plant as shown by the records and upon a hypothetical original cost obtained by deducting the amount of the reported extensions from the cost of reproduction of the property. It appears that with an interest rate somewhere between 6 and 7 per cent the net losses incurred in developing the business would be practically nothing, and that even if

interest is finally included at 7 per cent and allowance made for the overstatement of losses due to improper charges to construction, the full extent of the losses need not necessarily be accepted as the cost of developing the business. Losses may be due to causes other than the actual developmental costs and may even continue after the normal developmental period is past. Whether in the present case the investment in the utility was somewhat ahead of the needs of the community may, perhaps, be a question.

Held: The just compensation to be paid to the water company for the taking of the property used and useful for the convenience of the public, exclusive of the stock and material on hand and additions made to the plant since Jan. 1, 1913, is $128,800. The city is ordered to pay this sum to the water company within six months from date, together with such price as may be agreed upon between the parties or, in the event that the parties are unable to agree, fixed by the Commission, for the materials and supplies on hand at the date of the taking of the plant and for new additions made to the plant since Jan. 1, 1913, with interest at 6 per cent per annum until the compensation is fully paid.

This is an action by the city of Antigo to acquire the property of the Antigo Water Company. Notice of the city's intent to acquire the property was filed with the Commission on November 13, 1912. The Antigo Water Company has been operating under an indeterminate permit since January 29, 1910. The acquisition of the property of the Antigo Water Company was determined upon at the election of November 5, 1912, at which election it appears that 986 votes were cast in favor of municipal purchase, and 302 votes in opposition.

A valuation of the physical property of the company was undertaken by the Commission and hearing upon all matters relating to the case was held at Madison, February 13, 1913. Appearances were:

For the city of Antigo, *Geo. W. Hill,* mayor, *Roy V. Smelker,* city attorney, and *Geo. W. Latta,* counsel for the city. For the Antigo Water Company, *C. B. Bird,* of *Kreutzer, Bird, Rosenberry & Okoneski,* and *W. G. Maxcy,* general manager.

Testimony introduced on behalf of the city tended to show a somewhat lower cost of physical property than that shown in the Commission's tentative valuation, particularly in the items of cast iron pipe and of pipe laying.

For the water company the testimony tended to show the existence of a high going value or developmental cost and also higher unit prices on items of physical property than those employed by the Commission. So far as the testimony affects

the conclusions to be reached in this case, it will be considered later. Briefs introduced by the parties to this action consisted principally of a summary of the conclusions which the parties sought to establish at the hearing. The brief for the water company dwelt almost entirely upon the matter of the non-physical elements which should be recognized in the valuation as finally fixed in this case. For the city of Antigo the argument of the brief was that the unit prices applied to the inventory of the water works property should not be any higher than the prices actually paid by the water company at the time the property under consideration was installed. Objection was made also to the allowance of 12 per cent of the valuation of physical property for engineering, supervision, interest during construction, etc., as in the case of *Hill v. Antigo Water Co.* 1909, 3 W. R. C. R. 623, 685, only a 10 per cent allowance was included.

In determining the value of the property under consideration it may be as well to fix the valuation in this case as of January 1, 1913, which is the date of the tentative valuation of the physical property, and to exclude all stores and supplies from the amount determined. Stores and supplies and additions to the property and plant from January 1, 1913, to the date of the transfer can be inventoried and valued separately.

Physical Property. A tentative valuation of the physical property, as of January 1, 1913, was reviewed at the hearing. This valuation, as prepared by the Commission, with the omission of stores and supplies, is summarized below:

Classification.	Cost new.	Present value.
Land	$7,712	$7,712
Transmission and distribution	75,256	72,598
Buildings and miscellaneous structures	18,923	15,599
Plant equipment	8,274	6,655
General equipment	532	272
Total of above	$110,697	$102,836
Add 12 per cent	13,284	12,340
Total	$123,981	$115,176

A careful review of the tentative valuation showed that the following items had not been been included:

I.	Two parcels of land with a value of	$1,250
II.	Fire alarm gong at pumping station	150
III.	Change in creek channel and building of dam estimated at 2,800 cu. yds. of excavation at 35 cts	980
	Dam	100
IV.	Meters owned by company in excess of amount in tentative valuation	124
V.	Additional cost of small W. I. mains	98
VI.	Add 12 per cent for engineering, etc	324
VII.	Paving	1,079

The revised valuation, including the allowance for paving, is as follows:

Classification.	Cost new.	Present value.
Land	$8,962	$8,962
Transmission and distribution	76,558	73,873
Buildings and miscellaneous structures	18,923	15,599
Plant equipment	8,424	6,805
General equipment	532	272
Total of above	$113,399	$105,511
Add 12 per cent	13,608	12,661
Total of above	$127,007	$118,172
Paving	1,079	1,057
Total	$128,086	$119,229

It appears that none of the paving listed in the valuation has actually been disturbed, but it is shown above in order that the statement may cover completely the cost of reproducing the physical property.

Testimony for the water company was to the effect that the unit prices used in the Commission's valuation were substantially the same as the prices which the utility had actually paid during a period of about five years immediately preceding the date of the valuation, but that the prices paid by the water company for materials during the earlier years were, in general, about 10 per cent higher than those used by the Commission.

Upon this point witnesses for the company and for the city differed very materially. On behalf of the city, a valuation of the property was prepared by Arthur M. Morgan, an engineer experienced in water works construction. This valuation was considerably less than the tentative valuation of the Commission. Mr. Morgan appears to have based his valuation quite largely upon the prices paid for materials in other cities as of the same years as those during which construction work was done at

Antigo, with allowance made for differences in freight charges. A rather detailed statement of the bases used was presented in the testimony of Mr. Morgan. Following is a summary of the valuation introduced on behalf of the city.

Classification.	Cost new.	Present value.
Land		
Transmission and distribution	$62,348	$59,648
Buildings and miscellaneous structures	21,073	18,527
Plant equipment	6,595	4,594
General equipment	500	500
Total of above	90,516	83,269
Add 10 per cent	9,052	8,327
Total	$99,568	$91,596

It will be noted that Mr. Morgan has not placed any value upon the land, but there appears to be no objection to the value placed by the Commission upon this item. The allowance for engineering, supervision, contingencies, interest during construction, etc., has been placed at 10 per cent, which Mr. Morgan stated in his testimony he considered about a minimum allowance for these items. The principal point of difference, aside from those mentioned above, between the valuation prepared by Mr. Morgan and the tentative valuation prepared by the Commission, is found in the value placed upon the distribution system. The difference in this item of the valuation appears to be due to differences in the unit prices used for mains and to differences in the assumed cost of laying mains.

The method followed by Mr. Morgan, of using unit prices based upon conditions prevailing at the time the work was done, would tend to show what it actually cost or would normally have cost at such time. The use of prices based on an average for a number of years prior to the date of the valuation, as made by the Commission, on the other hand, indicates the cost of reproducing the property rather than the actual amount which the property has cost. Both the actual investment and the cost of reproduction should be considered in finally fixing a value, but it is hardly to be expected that physical valuations designed to show two materially different sets of facts should coincide very closely. The valuation submitted on behalf of the city is indicative of what the investment was or might normally

have been, but it does not show what it would actually cost to reproduce the property.

With regard to the costs of laying pipe, including trenching and back filling, as used in the Commission's valuation of January 1, 1913, it should be said that since the valuation of 1908 was made we have had an opportunity to see actual pipe laying in progress at Antigo and to obtain a better understanding of the cost of this work. The allowances for excavating and back filling trenches have been somewhat increased in the recent valuation and the allowances for lead and yarn combined therewith.

The soil at Antigo is such that the top width of trenches is necessarily much greater than 36 inches, as assumed by the city's engineer. The yardage of material to be excavated per foot of trench is such that it would be impracticable for an average laborer to cast it all out without having a considerable portion rehandled at the surface of the street. In addition to this element it is necessary to allow for back filling and for the wages of non-productive labor such as a foreman, a water boy, and a time keeper and a watchman, as well as for tools and a moderate profit to a contractor. In this case the original system was installed by a contractor, but the extensions are understood to have been made by laborers employed by the water company.

In view of the conditions stated above, it seems that, as far as the cost of reproduction should guide in the final determination of this case, the cost of reproduction as determined by the Commission is substantially the valuation which should be used.

The actual investment in the property is indicated by the records of construction, a part of which were made a matter of record in the case of *Hill v. Antigo Water Co.* 1909, 3 W. R. C. R. 623. The cost of the original plant appears to have been $64,727. Up to January 1, 1913, the total of reported extensions and additions was $66,420, so that the total amount which had been invested in the property up to January 1, 1913, as shown by the records on file with the Commission, was $131,147. The company has not provided a depreciation reserve and its reports do not disclose the method employed in accounting for reconstruction work, but apparently no considerable amount of reconstruction was handled as an operating expense. In the absence of a reconstruction account or a depreciation account,

it seems that reconstruction must have been handled as a charge to property and plant, and that the actual cost of the plant is overstated by the amount of such reconstruction. Just the extent of this reconstruction is not shown by the records, but in accepting the original cost as shown by the company's records, as an indication of the value of the property, the likelihood of an overstatement of the original cost must be considered.

Non-physical Property. Aside from the physical property, the cost of developing the business must be given consideration. Respondent's Exhibit A, introduced at the hearing, purports to be a computation of the losses incurred by the company up to July 1, 1912. It is, in effect, a modified "Going value" computation with an assumed interest rate of 7 per cent but without any allowance for depreciation. According to the data set forth in this exhibit the accumulated deficits had brought the total investment in the property, on July 1, 1912, to $188,660. The most serious objection to the use of the exhibit as an indication of the cost of developing the business is probably the fact that the financial statistics presented do not agree with those reported to the Commission in the several annual reports of the utility nor with the records of extensions and of net earnings which were used in the case of *Hill v. Antigo Water Co., supra.* Without showing in detail the discrepancies, which are a matter of record, it may be said that they are so pronounced that little use can be made in this case of the results shown in the exhibit. A number of computations have been made by the Commission, with a view to ascertaining as closely as practicable the actual extent of the losses, if any, to which the company has been subjected in the development of its business. These computations were based upon the facts with regard to additions to property and to net earnings, as shown in *Hill v. Antigo Water Co., supra,* and in the annual reports filed by the utility in accordance with the Public Utilities Law. The computations, so far as they may be affected by the inclusion of reconstruction and replacements in the property account, overstate the losses which the company has incurred, but they throw considerable light upon the cost of developing the business.

In making the computations, depreciation has been included at the rate of approximately 0.63 of 1 per cent, which was the rate used in the computations in the earlier decision involving

the rates of this company. Separate computations have been made for interest rates of 6 and 7 per cent. In addition, computations have been based upon an original cost of the plant, of $64,727, as shown by the records, and upon a hypothetical original cost of $61,843, obtained by deducting the amount of the reported extensions from the cost of reproduction of the property. The results of these computations are indicated below:

1. Based on $61,843 original value, 6 per cent interest, extent of apparent losses—none—$16,766 gain.
2. Based on $64,727 original value, 6 per cent interest, extent of apparent losses—none—$9,943 gain.
3. Based on original value of $61,843, 7 per cent interest, extent of apparent losses—$19,317.
4. Based on original value of $64,727, 7 per cent interest, extent of apparent losses—$28,831.

The computations have been carried to June 30, 1912, the last date for which the necessary data were at hand. It will be seen that on a 6 per cent interest basis all of the losses have been returned to the company and that there has been an actual gain. When the computations are made upon a 7 per cent basis, there is an apparent loss. To the extent that reconstruction has been charged to the property account the inclusion of an allowance for depreciation in the gain or loss computations causes an understatement of the apparent gains and an overstatement of the apparent losses. It seems clear, however, that with an interest rate of somewhere between 6 per cent and 7 per cent the amount of apparent losses would be practically nothing.

Even if interest is finally included at 7 per cent and allowance made for the overstatement of losses due to improper charges to construction, it is not certain that the full extent of the losses should be accepted as a cost of developing the business. Losses may be due to causes other than the actual developmental costs, although in this case witness for the company testified that the management had been economical and, in his judgment, wise.

Losses may even continue after the normal developmental period is past. In this case it appears that in 1904 there were only 371 taps, and that by 1912 there were 715, indicating that that greatest development has occurred in recent years. Whether

this means that the investment was somewhat ahead of the needs of the community may, perhaps, be a question, but witness for the company stated that in his judgment the investment was wisely made. The witness stated that the business of water utilities usually grows rather slowly and that the losses are likely to continue longer, even in a well planned investment, than in the case of some other classes of utilities. This, however, is probably offset to some extent by the fact that a water utility usually has a rather large part of its revenue, that derived from hydrant rentals, definitely fixed at the start.

Any attempt to estimate what it would cost to reproduce the business of a utility is open to serious objections, some of which have been discussed in *Common Council of the City of Green Bay v. Green Bay Water Co.* 11 W. R. C. R. 1913, 236–243. With proper allowance made for these objections, however, some light can be obtained upon the cost of developing the business by estimates of the cost of developing a paying business for a utility which is assumed to start operation in a city comparable to Antigo.

The decision which we have cited above, *Hill v. Antigo Water Co.*, contains a very full discussion of the various non-physical elements to be considered in a valuation of a public utility property and it is not considered necessary to embody any further discussion in this case. The facts which have been reviewed indicate that the fair value of the property of the Antigo Water Company, used and useful for the public service, as of January 1, 1913, exclusive of materials and supplies on hand, with proper allowance made for all elements to be considered, was as stated in the following order:

IT IS THEREFORE ORDERED, That the just compensation to be paid to the Antigo Water Company for the taking of the property of said company actually used and useful for the convenience of the public by the city of Antigo, which property consists of the items above described, excepting, as stated, the stock and material on hand and the additions to the plant that have been made since January 1, 1913, be and the same is hereby fixed at one hundred twenty eight thousand eight hundred dollars ($128,800).

IT IS FURTHER ORDERED, That, in addition to the above compensation, the materials and supplies on hand at the date of the

taking of the said plant and the new additions to the plant that have been made since January 1, 1913, be paid for by the said city of Antigo at such price as may be agreed upon by the parties themselves, or in case the parties fail to agree upon the price, at such price as the Commission shall fix by supplemental order.

IT IS FURTHER ORDERED, That the said city of Antigo pay to the said Antigo Water Company the compensation herein fixed and the price of said materials and supplies and said additions to said plant within six months after date hereof, with interest at the rate of 6 per cent per annum from the date of taking possession of said plant by said city until the same is fully paid.

IN RE PROPOSED EXTENSION OF THE LINE OF THE CLINTON TELEPHONE COMPANY.

Submitted Nov. 7, 1913. Decided Nov. 10, 1913.

The Clinton Tel. Co. filed notice with the Commission, pursuant to ch. 610 of the laws of 1913, of its intention to extend its telephone line a distance of 80 rods in the town of Clinton, Rock county, to reach a former subscriber at his new place of residence. The Bergen Tel. Co., which operates a line running past the house in question, objects to the proposed extension.

Held: Where adequate service at reasonable rates can be obtained from the company whose lines already occupy the field, encroachments of the kind contemplated by the applicant should not be permitted. The Commission therefore finds that public convenience and necessity do not require the construction of the extension proposed by the applicant.

This matter was brought before the Commission by notice filed October 22, 1913, by the Clinton Telephone Company pursuant to chapter 610 of the laws of 1913, describing a proposed extension in the town of Clinton, Rock county, Wis., for a distance of about 80 rods along the line between sections 22 and 27 in that town, in order to reach the residence of Mr. Charles Doering. Upon filing of objection to the proposed extension by the Bergen Telephone Company, which was operating a line for local service in the town of Clinton, the matter was set for hearing.

At the hearing, which was held at the office of the Commission November 7, 1913, the Clinton Telephone Company was represented by *Iver Jacobson* and the Bergen Telephone Company by *H. S. Anderson.*

It appears from the testimony taken at the hearing that the residence into which Mr. Doering has recently moved was served by the Bergen Telephone Company until a short time after his arrival, but that he then ordered the telephone removed and asked the Clinton Telephone Company to extend its line to his house. The telephone formerly installed in the house was upon a line of the Bergen Telephone Company which runs past the house to a number of subscribers beyond. Mr. Doering form-

erly resided some distance north of Clinton, where he had the Clinton Telephone Company's service, and upon his removal to his present residence south of Clinton he desired to continue that service in order to reach his relatives and friends in and near Clinton. It was testified that Mr. Doering had the Bergen telephone in his house for several days after he moved into it, but he claims to have had a great deal of trouble in obtaining satisfactory service during these days, and he therefore ordered the telephone removed.

The Clinton and Bergen telephone companies have a physical connection at Bergen, and the charge for messages passing from one line to the other is 2 cts. each. This rate was fixed by the Commission and is presumptively reasonable for the service performed. Mr. Doering's objections to taking service from the Bergen line which runs past his house seems to be partly due to this 2 ct. charge and partly due to deficiencies of service during the few days he had the Bergen telephone. This trouble, however, was explained by the representative of the Bergen Telephone Company as having been due to mischievous interference with this line on the part of a few new subscribers beyond Mr. Doering's house, and it was testified that this disturbance had been stopped when the Bergen Telephone Company threatened to disconnect the offending subscribers. Unless these disturbances on the Bergen line are chronic, as we have no reason to suspect they are, it seems that Mr. Doering can be adequately served at a reasonable rate by taking the Bergen telephone. If Mr. Doering reconnects with the Bergen system and is unable to get satisfactory service, this Commission has the power, when its attention is called to the trouble, to require reasonably adequate service.

As to the rate of 2 cts. per message, it may seem a hardship to Mr. Doering to have to pay this amount to talk with his old neighbors or with other subscribers of the Clinton Telephone Company, but that is one of the incidents of his removal from the territory of the Clinton Telephone Company into that of the Bergen Telephone Company. It is true that in this case the residence in question is not far from the present terminus of the Clinton Telephone Company's line and the extension required would be rather short, but the fact remains that the road upon which the residence is situated is occupied by the line of

the Bergen Telephone Company, and to permit competition at this point would make it difficult to prohibit a further extension to the next farm house, and so on until the entire Bergen line along this particular road was paralleled. Permitting the extension in question would also open the door to the Bergen Telephone Company to make similar inroads upon the territory of the Clinton Telephone Company at certain points where, as was pointed out at the hearing, requests have been made of the Bergen Telephone Company for service. We believe it was the intention of the legislature in passing chapter 610 of the laws of 1913 that in the absence of extraordinary conditions encroachments of the kind here contemplated by the Clinton Telephone Company should not be permitted where adequate service at reasonable rates can be obtained from the company whose lines already occupy the field.

WE THEREFORE FIND AND DETERMINE, That public convenience and necessity do not require the extension of the line of the Clinton Telephone Company in the town of Clinton, Wis., in the manner described in the notice filed with this Commission by said company October 22, 1913.

IN RE DETERMINING AND FIXING A JUST COMPENSATION TO BE PAID TO THE BEAVER DAM WATER COMPANY BY THE CITY OF BEAVER DAM FOR THE TAKING OF THE PROPERTY OF SAID COMPANY ACTUALLY USED AND USEFUL FOR THE CONVENIENCE OF THE PUBLIC, IN ACCORDANCE WITH THE PROVISIONS OF CHAPTER 499 OF THE LAWS OF 1907 AND ACTS AMENDATORY THEREOF AND SUPPLEMENTARY THERETO.

Submitted June 25, 1913. Decided Nov. 21, 1913.

This is a proceeding to determine the compensation to be paid in the purchase of the property of the Beaver Dam Water Co. by the city of Beaver Dam. The tentative valuation made by the engineers of the Commission is accepted by the parties to the proceeding as a fair valuation of the physical property except in respect to certain particulars which are considered in detail and given proper revision.

Held: The just compensation to be paid to the water company for the taking of its property used and useful for the convenience of the public, exclusive of the stock and material on hand and additions made to the plant since Nov. 1, 1913, is $133,000. The city is ordered to pay this sum to the water company within six months after the transfer of the property to the city, together with such price as may be agreed upon between the parties to this proceeding or, in the event that the parties are unable to agree, fixed by the Commission, for the materials and supplies on hand at the date of the taking of the plant and for new additions made to the plant since Nov. 1, 1913, with interest at 6 per cent per annum until the compensation is fully paid.

Notice was filed with the Commission by the city of Beaver Dam that, at an election held on April 1, 1913, for the purpose of determining whether the city of Beaver Dam should purchase the property of the Beaver Dam Water Company, a majority of the votes cast at such election were in favor of the acquisition of the said property.

The hearing on the valuation of the plant was held at Madison on June 25, 1913. The city of Beaver Dam was represented by *J. M. Murlock,* mayor, and *J. C. Healy,* city attorney. The Beaver Dam Water Company was represented by *E. L. Street,* its general manager.

The physical valuation of the property made by the engineers of the Commission was accepted by the parties as a fair valua-

tion of the physical property, except in certain particulars to be hereafter considered. The valuation bears date June 1, 1913, and of course does not include extensions and additions made thereafter. These will be considered subsequently. The following tables contain the summary and details of the property and value assigned to same.

FINAL SUMMARY.

Classification.	Cost new.	Present value.
A. Land	$335	$335
B. Transmission and distribution	79,678	78,106
C. Buildings and miscellaneous structures	17,209	12,987
D Plant equipment	10,114	9,316
E. General equipment	330	211
F. Paving	5,003	4,903
Total	$112,669	$105,858
Add 15 per cent[1]	16,900	15,879
Total	$129,569	$121,737
H. Material and supplies (approx.)[2]	1,200	1,000
Total	$130,769	$122,737
J. Non-operating	960	55
Total	$131,729	$122,792

[1] Addition of 15 per cent to cover engineering, superintendence, interest during construction, contingencies, etc.

[2] Company proposes to immediately deepen one of the drilled wells and cover the steam piping. The expense for this work is not included above. It will probably involve approximately $200 additional.

DETAILED SUMMARY.

Item.	Unit.	Quantity.	Unit price	Cost of reproduction. Items.	Cost of reproduction. Total.	Scrap value.	Condition, per cent.	Present value.
A. LAND:								
A 1—Pumping Station and Source of Supply Land:								
Pumping station site	.....	.....	.....	.....	$200	.....	.....	$200
Total A 1	.....	.....	.....	.....	$200	.....	.....	$200
A 2—Other Land:								
Water tower site	.....	.....	.....	.....	$120	.....	.....	$120
Pipe line easement	.....	.....	.....	.....	15	.....	.....	15
Total A 2	.....	.....	.....	.....	$135	.....	.....	$135
Total A. Land	.....	.....	.....	.....	$335	.....	.....	$335
B. TRANSMISSION AND DISTRIBUTION:								
B 1—Mains:								
Discharge piping at pumping station installed	.....	.....	.....	.....	$312	$48	95	$307
12" C. I. pipe (ready for laying)	Tons	287.23	$27.75	$7,971				
10" " " " "	"	100.12	27.75	2,778				
8" " " " "	"	61.53	27.75	1,707				
6" " " " "	"	1,060.76	27.75	29,436				
4" " " " "	"	68.19	29.00	1,978				
					$43,870	$14,200	98	$43,277
12" valves with boxes	Each	2	39.00	.....	78	14	98	77
10" " " "	"	4	31.25	.....	125	21	98	123
8" " " "	"	6	23.00	.....	138	21	98	136
6" " " "	"	52	16.60	.....	863	138	98	849
4" " " "	"	8	11.75	.....	94	16	98	92
C. I. Pipe specials	.....	.....	.....	.....	1,316	215	98	1,294
Trenching and pipe laying including joint materials tools, etc. 12"	Foot	6,860	0.46	$3,156				
10"	"	3,077	0.38	1,169				
8"	"	2,540	0.33	838				
6"	"	42,460	0.28	17,489				
4"	"	6,162	0.24	1,479	$24,131	.....	98	23,648
Sub-total C. I. mains 4" and larger (including discharge pipe)	.....	.....	.....	.....	$70,927	.....	.....	$69,803
3" C. I. pipe mains laid	Foot	175	0.57	100				
2" Galv. " " "	"	2,743	0 30	823				
1¼" " " " "	"	3,225	0.26	839				
1" " " " "	"	795	0.23	183	1,945	.....	95	1,848
Total B 1	.....	.....	.....	.....	$72,872	.....	.....	$71,651
B 2—Hydrants and Connections.								
Double nozzle hydrant—4" con	Each	131	$26 48	$4,779				
" " " 6" "	"	15	38 95	584	$5,363	$876	93	$5,049
Total B 2	.....	.....	.....	.....	$5,363	.....	.....	$5,049
B 3—Services. All installed at consumers' expense, therefore omitted								
B 4—Meters.								
1" Niagara meters	Each	3	14 00	.....	$42	$2	95	$40
Total B 4	.....	.....	.....	.....	$42	.....	.....	$40

DETAILED SUMMARY.—Continued.

Item.	Unit.	Quantity.	Unit price.	Cost of reproduction. Items.	Cost of reproduction. Total.	Scrap value.	Condition per cent.	Pres'nt value.
B. TRANSMISSION AND DISTRIBUTION.—Continued.								
B 5—Intakes, Collecting Aqueducts and Supply Mains.								
From large well					$170	$30	97	$166
From small well					938	150	97	914
Connection between wells (overflow)	Foot	340	0.70		238		97	231
Additional piping to new pump					55	15	100	55
Total B 5					$1,401			$1,366
B 6.—Fountains, Troughs and Miscellaneous. None.								
Total B. Transmission and Distribution					$79,678			$78,106
C. BUILDINGS AND MISCELLANEOUS STRUCTURES:								
1—Pumping Station Build'gs.								
Pumping station					$5,001			$3,078
Stock					1,234			930
Total C 1					$6,235			$4,008
C 2—Reservoirs.								
C 3—Wells.								
50 ft. diam. well					$2,454		97	$2,381
Roof					650		56	364
20 ft. diam. well and protection					904		73	660
Roof					80		56	45
3 drilled wells[1] 5'	Lin. ft.	1187	$1 50		1,780		97	1,727
Total C 2 and 3					$5,868			$5,177
C 4.—Stand Pipes and Tanks.								
Foundation complete					$855		73	$624
Steel, erected and painted		73,220	$0.0475		3,478	$330	73	2,628
Pipe connections to mains incl. elec. hydr. valve installed	Lb.				464	50	90	423
Total C 4					$4,797			$3,675
C 5—Filters. None.								
C 6—Miscellaneous Buildings.								
Coal shed					$94			$38
Outhouse					15			9
Stable					200			80
Total C 6					$309			$127
Total C, Buildings and miscellaneous structures					$17,209			$12,987
D. PLANT EQUIPMENT.								
D 1—Steam Power Plant Equipment.								
Worthington Comp. W. W pump 12"x18½"x12"x10					$1,125	$65	31	$394
Foundation for above					38		31	12
Prescott Trip. exp. dupl. D. A, 9x14x23x44½x18 W. W. pump					5,400	275	100	5,400
Foundation for above					175		100	175
Total D 1					$6,738			$5,981

[1] One drilled well is to be drilled 75' deeper—cost $125.

DETAILED SUMMARY,—Concluded.

Item.	Unit.	Quantity.	Unit price.	Cost of production. Items.	Cost of production. Total.	Scrap value.	Condition per cent.	Pres'nt value.
D. PLANT EQUIPMENT.—Continued								
D 2—Gas Power Plant Equipment. None.								
D 3—Hydraulic Power Plant Equipment. None.								
D 4—Boiler Plant Equipment								
66" x 18' F.T. boilers with dome	Each	2	$1243	.....	$2,486	100	100	$2,486
54-4" tubes	"	2	70	.....	140	.....	100	140
Foundations for above	.....	.....	.....	.....	15	.....	100	15
Penberthy injector	.....	.....	.....	.....				
No. 10 National feed water heater	.....	.....	.....	.....	100	.....	100	100
Piping	.....	.....	.....	.....	580	45	100	580
4-1/2 x 2-3/4 x 4" B.F.pump	.....	.....	.....	.....	55	.....	25	14
Total D 4	.....	.....	.....	.....	$3,376	.....	.....	$3,335
D 5—Producer Gas Equipment None								
D 6—Dams, Canals & Flumes None								
Total D. Plant equipment	.....	.....	.....	.....	$10,114	.....	.....	$9,316
E. GENERAL EQUIPMENT								
E 1—Utility Equipment None								
E 2—General Office Equipment								
Furniture at plant	.....	.....	.....	.....	$23	.....	45	$10
Furniture at office	.....	.....	.....	.....	236	.....	70	165
Total E 2	.....	.....	.....	.....	$259	.....	.....	$175
E 3—Shop Equipment								
Tools	.....	.....	.....	.....	$71	.....	50	$36
Total E 3	.....	.....	.....	.....	$71	.....	.....	$36
E 4—Miscellaneous Equipment None								
Total E. General equipment	.....	.....	.....	.....	$330	.....	.....	$211
F. PAVING.[1]								
(All paving is brick with grout filler, on 5" concrete base).								
10" pipe	Foot	2,450	.....	.....	.....	.....	.....	.....
8" "	"	1,050	.....	.....	.....	.....	.....	.....
6" "	"	2,450	.....	.....	.....	.....	.....	.....
4" " (hydr. branches)	"	240	.....	.....	.....	.....	.....	.....
3" "	"	175	.....	.....	.....	.....	.....	.....
14" "	"	275	.....	.....	.....	.....	.....	.....
		6,670	$0.75	.....	$5,003	.....	98	$4,903
Total F. Paving	.....	.....	.....	.....	$5,003	.....	.....	$4,903
H. MATERIALS AND SUPPLIES.								
Stock on hand	.....	.....	.....	.....	$1,200	.....	.....	$1,000
Total H. Materials and supplies	.....	.....	.....	.....	$1,200	.....	.....	$1,000
J. NON-OPERATING.								
Worthington simple W.W.pump	.....	.....	.....	.....	$960	$55	.....	$55
Total J. Non-operating	.....	.....	.....	.....	$960	.....	.....	$55

[1] Above figures include all existing paving. The company has been at no actual paving expense in connection with construction of mains.

By direction of the Commission, the engineers of the Commission reviewed the valuation in the light of certain claims made by the company. They also estimated the improvements and additions which have been made since June 1, 1913. As a result, certain corrections were made in the first five subdivisions in "Group B, Transmission & Distribution." Also certain changes have been made in "Group C, Buildings & Miscellaneous Structures," and "Group D, Plant Equipment." The following table shows the changes in Group B:

Item.	Unit.	Quantity.	Unit price.	Cost new. Items	Cost new. Total.	Scrap value	Condition, per cent.	Present value.
B. TRANSMISSION AND DISTRIBUTION.								
B 1—Mains.								
Discharge piping at pumping station installed					$550		100	$550
12" C. I. pipe B & S	6,860 ft.	Ton...	287.23	$27.75	$7,971			
10" " " "	3,077 "	"	100.12	27.75	2,778			
8" " " "	2,590 "	"	61.53	27.75	1,707			
6" " " "	62,460 "	"	1,050.76	27.75	29,436			
4" " " "	6,162 "	"	68.19	29.00	1,978	$43,870	$14,200	98 $43,277
12" valves and boxes, delivered on streets		Each.	2	39.00	$78			
10" valves and boxes, delivered on streets		"	4	31.15	125			
8" valves and boxes, delivered on streets		"	6	23.00	138			
6" valves and boxes, delivered on streets		"	52	16.70	868			
4" valves and boxes, delivered on streets		"	8	11.75	94	1,303	210	98 1,281
C. I. specials, exclusive of those used in hydrant connections						1,316	215	98 1,294
Trenching and laying 12" C. I. pipe		Feet..	6,860	0.46	$3,156			
Trenching and laying 10" C. I. pipe		"	3,077	0.38	1,169			
Trenching and laying 8" C. I. pipe		"	2,590	0.33	858			
Trenching and laying 6" C. I. pipe		"	62,460	0.28	17,489			
Trenching and laying 4" C. I. pipe		"	6,162	0.24	1,479	24,131		98 23,648
3 " mains installed (C. I. pipe)		"	175	0.57	$100			
2 " " " (galv. pipe)		"	2,743	0.30	823			
1½" " " " "		"	3,225	0.26	838			
1 " " " " "		"	795	0.23	183	1,944		95 1,847
Total mains						$73,114		$71,897
B 2—Hydrants and Connections.								
2 way hydrants—6 ft. long 4" conn		Each.	131	36.48	$4,779			
2 way hydrants—6 ft. long 6" conn		"	15	38.95	584	$5,363	$876	93 $5,049
C. I. hydrant specials in mains						658	108	98 647
Total hydrants and connections						$6,021		$5,696

Item.	Unit.	Quantity.	Unit price.	Cost new. Items.	Cost new. Total.	Scrap value.	Condition, per cent.	Present value.
B 3—Services.								
Tapping main furnishing and placing ¾" corporation cocks.	Each..	1,260	1.45	.....	$1,827	.....	98	$1,790
Total services.....	.....	.....	.....	.....	$1,827	.....	.....	$1,790
B 4—Meters								
1" Niagara meters—installed..	Each.	3	15.00	.....	$45	.....	9[illegible]	$43
1" Badger " "	"	1	37.50	.....	38	.....	100	38
Total meters	.....	.....	.....	.....	$83	.....	.....	$81
B 5—Intakes. Collecting Aqueducts and Supply Mains.								
From large well.....	.....	.....	.....	.....	$170	$30	98	$167
From small well and lake to pumps.....	.....	.....	.....	.....	915	150	98	900
Connection between wells—overflow	Feet..	340	0.70	.....	238	.....	98	233
Connection with old pump—placed 1913 and replacing portion of old suction deducted.....	.....	.....	.....	.....	115	18	100	115
Total intakes, collecting aqueducts and supply mains.....	.....	.....	.....	.....	$1,428	.....	.....	$1,415
Total transmission and distribution	.....	.....	.....	.....	$82,483	.....	.....	$80,879

An examination of the vouchers submitted by the company, together with the invoices, shows that the figures of our engineers on the special flanged pipe and appurtenances, making up the new discharge and suction piping at the pumping station, were too low. Therefore the present values of B–1 and B–5 have been increased as shown above, to correct this error. In the tentative valuation of June 1, 1913, the hydrant specials were omitted through error. Including them increases the present value of Group B–2 by $647.00. The omission was due to the fact that the engineers understood that no part of the services were furnished by the company, but that all were furnished by the consumers. The fact is, however, that the company furnishes the corporation cock and pays for the labor of inserting it into the main. As a result B–3 is increased $1,790.00. The increase in B–4 is chiefly due to the installation of a new 2 inch meter by the company.

Certain repairs and improvements have been made to the pumping station buildings. These include a complete re-shingling of the roofs of the pumping station proper, the dwelling in connection therewith, and also the barn. Further, the old con-

crete floors of the boiler and engine rooms were replaced with new concrete floors. The engine room has been newly painted, and the boiler room newly whitewashed. These repairs have raised the per cent condition placed on these particular parts in the former valuation to 100 per cent condition, and the present value of the buildings has been raised somewhat in consequence. There have also been some slight additions, such as the installation of a ventilator over the engine room, and the placing of gutters and leaders for roof drainage. The depth of one of the 6 inch drilled wells has been increased 90 feet. As a result of such improvements and additions, the present value of Group C has been increased by $500.

The present value of Group D has been increased $106. This increase was due to the replacing of the old boiler pump by a new pump, and the covering of the new steam piping with asbestos.

As the result of the above mentioned repairs and additions to the plant and corrections to the previous valuation, the present corrected valuation shows the present value of the plant as of date November 1, 1913, to be $126,651.

The corrected final summary, therefore, appears as follows:

Classification.	Cost new.	Present value.
A. Land	$335	$335
B. Transmission and distribution	82,483	80,879
C. Buildings and miscel aneous structures	17,479	13,487
D. Plant equipment	10,179	9,422
E. General equipment	330	211
F. Paving	4,980	4,880
Total	$115,736	$109,214
Add 15 per cent (see note b low)	17,360	16,282
Total	$133,096	$125,596
H. Material and supplies (approx.)	1,200	1,000
Total	$134,296	$126,596
J. Non-operating	960	55
Total	$135,256	$126,651

NOTE: – Addition of 15 per cent to cover engineering, superintendence, interest during construction, contingencies, etc.

The financial report for the year ending June 30, 1913, shows that the total operating revenues were $20,942.34; that the interest paid on mortgages amounted to $3,060 and that all operating expenses amounted to $15,463.16. It may be noted that the item for general law expenses is placed at $5,000. This is evidently excessive, as there is nothing, as far as we

have been able to ascertain, to warrant such expenditure. Nevertheless, this item is immaterial as far as the deductions from the financial report are essential to the purpose in this case.

Considerable evidence was offered on the question of going value. In view of the extensive consideration given to this subject in former decisions of the Commission, it is unnecessary to reiterate what has been said by the Commission in such cases.

After a careful consideration of the elements of value involved in the appraisement and all the facts and circumstances disclosed from the investigation, and contained in the records herein, it is the judgment of the Commission that $133,000 is just compensation to the owner of the property in question for the taking of this property by the city of Beaver Dam.

The possession of the property should be transferred to the city at the beginning of the next quarter for assessment of rates. This will prevent any complications arising in the matter of apportionment of accounts between the city and the utility.

IT IS THEREFORE ORDERED, That the just compensation to be paid to the Beaver Dam Water Company for the taking of the property of said company, actually used and useful for the convenience of the public, which property consists of the items above described, except the stock and material on hand and additions to the plant that have been made since November 1, 1913, be and the same is hereby fixed at one hundred and thirty-three thousand dollars ($133,000).

IT IS FURTHER ORDERED, That in addition to the above compensation, the materials and supplies on hand at the date of the taking of the said plant, and the new additions to the plant that have been made since November 1, 1913, be paid for by the said city of Beaver Dam at such price as may be agreed upon by the parties themselves, or, in case the parties fail to agree upon the price, at such price as the Commission shall fix by supplemental order.

IT IS FURTHER ORDERED, That the said city of Beaver Dam shall pay to the said Beaver Dam Water Company the compensation herein fixed and the price of said materials and supplies and said additions to said plant within six months after the transfer of the possession of said plant to the said city, with interest at the rate of 6 per cent per annum, until the same is fully paid.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF THE SERVICE OF THE MILWAUKEE ELECTRIC RAILWAY AND LIGHT COMPANY ON ITS MILWAUKEE STREET RAILWAY LINES.

WASHINGTON PARK ADVANCEMENT ASSOCIATION,
NORTHWEST NEIGHBORHOOD CIVIC CLUB
vs.
THE MILWAUKEE ELECTRIC RAILWAY AND LIGHT COMPANY.

Decided Nov. 25, 1913.

The Commission, on its own motion, investigated the service on the T. M. E. R. & L. Co's system of street railways in the city of Milwaukee. The matter of the formal complaint made by the Washington Park Advancement Association and the Northwest Neighborhood Civic Club with respect to the service on the National ave.-Walnut st. line in Milwaukee is included in the present proceeding. The Commission investigated traffic conditions on the company's lines during the summer of 1912 and the winter, spring and summer of 1913. Traffic data were also submitted by the company and by the city of Milwaukee. The company contends that the revenue yielded by the rates provided for the company by the order of the Commission in the *Fare Case* (*City of Milwaukee v. T. M. E. R. & L. Co.* 1912, 10 W. R. C. R. 1, 369), is not sufficient to meet reasonable expenses under present conditions without the making of any further improvements in service. A valuation was computed and the revenues and expenses were investigated, data presented in the *Fare Case* being used with new data as the basis for further analyses. Necessary apportionments are made between T. M. E. R. & L. Co. and the M. L. H. & T. Co. In the study of expense for maintenance of equipment consideration is given to comparative data on the unit costs of street railway companies in other large cities.

A public service corporation which undertakes to supply street railway service should furnish sufficient equipment to afford seats for all passengers who desire such service, unless there exist operating or financial conditions which make it impossible or impracticable to do so. The evidence offered in the present proceeding discloses no conditions which warrant a deviation from this standard except during the morning, noon and evening rush hours of the day and at times when conditions are abnormal.

Under present conditions it is impracticable during rush periods to supply all passengers with seats. To enforce such a standard of service with the present track facilities would result in unreasonable congestion in traffic in the down-town districts and would also necessitate vast expenditures for additional equipment, facilities and labor which would have to be borne in some manner by the public. Moreover it is doubtful, in view of the importance of speed when people are going to and from their work, if patrons of the street cars would be willing to wait for cars with vacant seats when cars with comfortable standing room available were passing.

To render reasonably adequate service in Milwaukee the T. M. E. R. & L. Co. must operate a sufficient number of cars to supply: (1) during any half hour in the non-rush period an average of at least 133 seats per 100 passengers demanding transportation in a given direction at any point on the line; and (2) during the maximum half hour in rush periods a similar average of at least 67 seats per 100 passengers, making provision for a gradual transition between the two standards.

It does not seem fair to allow a continuously operating property an expense for financing depreciation on a straight line basis. A company as large as the T. M. E. R. & L. Co., with a number of joint utilities and subsidiary properties under its control and with numerous opportunities for commercial investment, can readily invest any offsetting assets of the depreciation reserve liabilities at an average of 4 per cent return or better. To assume that under these conditions the company would allow money to remain idle within its business would be to question the capability of the company's administration. The straight line basis adopted in the *Fare Case* was justified on the ground that the 12 per cent overhead expense item was not included in the property upon which, in the first instance, depreciation was computed. It appears, however, that about half or more of the overhead does not ordinarily depreciate, inasmuch as a number of the expenses which are grouped in the item "overhead" do not have to be repeated except when there is total supersession of the plant. In view of this fact the 4 per cent basis for financing depreciation with about one-half of the overhead included as depreciable property seems to be the most equitable basis for the present case. Upon this basis the annual depreciation is 4.32 per cent on the wearing value plus one-half of the overhead costs.

Under normal conditions a rate of return of 7.5 per cent for interest and profit on such a valuation as that allowed in the *Fare Case* and under such other conditions as obtained in that case, is ordinarily sufficient to bring the necessary capital into the service.

The placing of the present value of the company's property in the *Fare Case* upon a 4 per cent sinking fund basis instead of upon a straight line basis gives the company the benefit of a high value.

For growing utilities where rate adjustments can not, in the very nature of things, be of very frequent occurrence and for which the net earnings are gradually increasing both absolutely and relatively, fairness often demands that the returns allowed for the first year or at the time the rates are adjusted should be below rather than above the normal returns.

Held: The service rendered by the company is inadequate in that it has failed to comply with the standards of service set forth above. Investigation of the costs of rendering service conforming to these standards shows that the costs can reasonably be met from the revenue yielded by the rates ordered by the Commission in the *Fare Case*. The company is therefore ordered to operate its lines in Milwaukee in accordance with the standards of service set forth, subject to certain modifications, and with other regulations prescribed by the Commission. Because of the fact that the traffic on some lines is so light at times that if only 133 seats per 100 passengers were supplied there would be an unreasonably great time interval between cars, minimum headway requirements are made. The standards of service prescribed are also subject to the following exceptions: (a) No service is to be required on the 12th st.-Viaduct line during the non-rush hours; and (b) suburban service within the city limits is not to be subject to the standards stated unless

the cars used are operated as an integral part of the city schedule. During rush hours the company is to station traffic officers with authority over trainmen at important transfer intersections and at other points where these officers can materially assist in the movement of traffic and the maintenance of schedules. The traffic officers, among other things, are, so far as practicable, to limit the loads on individual cars to the maximum comfortable carrying capacity of the cars. The company is also to station fare collectors at important loading points to admit passengers through the front doors of prepayment cars and otherwise facilitate the movement of cars and assist in the handling of passengers. Lists of traffic officers and fare collectors with their stations are to be submitted to the Commission for approval. The company is further ordered: to submit plans for all new passenger cars and for the remodeling of all old passenger cars to the Commission for approval with respect to details affecting the adequacy of service; to remove the dividing rails on the platforms of the rebuilt cars, and the chains attached to the dividing rails on the rebuilt and 600 type cars; and to display separate route and destination signs on the front and a route sign on the side of each car in service, any proposed changes in the type and manner of handling of signs to be submitted to the Commission for approval.

The Commission having received numerous informal complaints with reference to the service on the various city lines of The Milwaukee Electric Railway and Light Company, it was decided to institute an investigation, on motion of the Commission, of the service on the entire system of street railways operated by the company in Milwaukee. Pursuant to due notice of investigation and hearing with reference to each separate line, the following hearings were held:

Lines under investigation.	Date of hearing.	Appearances.	
		City.	Company.
National-Walnut, National-Fond du Lac	Mch. 24, 1918	D. W. Hoan	E. S. Mack.
National-Walnut, National-Fond du Lac	Apr. 1, "	D. W. Hoan	E. S. Mack.
Third-Eighth Ave., & Third Burnham	" 19, "	C. Williams	E. S. Mack.
	" 25, "	C. Williams	E. S. Mack.
Holton-Mitchell	" 25, "	C. Williams	E. S. Mack.
Oakland-Delaware	May 12, "	C. Williams	E. S. Mack.
" "		E. L. McIntyre	
	June 17, "	D. W. Hoan	E. S. Mack.
Vliet-First Ave. & Vliet-Howell	" 17, "	D. W. Hoan	E. S. Mack.
Eighth-16th St. Viaduct	" 30, "	C. Williams	E. S. Mack.
Thirty-Fifth St.	" 30, "	C. Williams	E. S. Mack.
Clybourn St.	" 30, "	C. Williams	E. S. Mack.
Center St.	July 15, "	D. W. Hoan	J. B. Blake.
Twelfth St.	" 15, "	D. W. Hoan	J. B. Blake.
North Ave.	" 15, "	D. W. Hoan	J. B. Blake.
State St. & State & 27th	" 29, "	C. Williams	J. B. Blake.
" " " "	Aug. 7, "	C. Williams	J. B. Blake.
Wells-Farwell	July 29, "	C. Williams	J. B. Blake.
" "	Aug. 7, "	C. Williams	J. B. Blake.
Oral argument	Sept. 24, "	D. W. Hoan	E. S. Mack. J. B. Blake.

The complaint of the Washington Park Advancement Association and the Northwest Neighborhood Civic Club with reference to the service on the National avenue—Walnut street line, which was heard on June 6, 1912, and in which no order has been issued, has been given consideration in the proceedings on motion of the Commission, and will be closed by the decision herein.

TRAFFIC DATA.

In the course of these hearings traffic data covering each of the company's lines and resulting from an extended series of observations made by members of the Commission's engineering staff during the summer of 1912, and the winter, spring and summer of 1913, were introduced by C. M. Larson, chief engineer of the Commission, who explained in detail the methods of investigation used by the staff. In order to ascertain the points of maximum travel, several trips were made over each line and a record kept of the number of passengers in the cars at various points. The points at which these records show the loads on the cars to have been the greatest, were selected for making traffic counts. Men were stationed at the designated street corners and instructed to record for each passing car on the line under observation, the car number, the run number, the time of arrival or departure, the line and destination, and the number of passengers riding. The number of passengers was ascertained by actual count or by estimate. The observers were informed as to the seating capacity of each type of car in operation, and with this information they were able to estimate very accurately the number of passengers on a car, either at light, medium or heavy load. In order to ascertain the accuracy of those taking the count, tests were made by having two men observe the same car, one counting the number of passengers exactly, and the other estimating the number on the basis of his knowledge of the seating capacity, adding the number of persons standing, or deducting the number of vacant seats. It was found that the observers were very accurate in their estimates, continual observation training them in such a way that the errors made were slight.

The data gathered as described above have been compiled in

the form of a series of charts, and as such were introduced at the hearings. The charts are plotted on cross-section paper in such a way as to show the point of observation, the spacing of cars, the time at which each car passed, and the number of passengers it carried. Each car is represented by a vertical line which is long or short, as the number of passengers is large or small. These vertical lines are spaced on a base horizontal line so as to indicate the time elapsing between cars. Thus any distortion of headway causing cars to be bunched, or causing long intervals between cars is easily noticed. Similarly, the number of persons standing can be readily ascertained by noting the vertical lines which extend above a horizontal line representing the number of seats provided on the cars. From the extensive series of charts plotted in this manner, the average conditions have been computed. The average number of passengers riding and the average number of seats provided in each fifteen minute period have been computed. The results of these calculations have been plotted in the form of a straight line curve, so that the average conditions are clearly shown, and so that an accurate comparison between the seats provided and the number riding can be made. The observations upon which these charts are based have been supplemented in each case by general observations made by those in charge of the investigation, in order that first-hand information of actual conditions on the street might be added.

In addition to the data gathered by the Commission's staff, the company and the city both offered the results of traffic counts on various city lines. The company's observations, which were usually for a one day period only, were made by their employes and the results were submitted in evidence in the form of charts comparable with those introduced by the Commission. The counts taken by the city were made under the assumption that each car has a seating capacity of 48. The results were submitted in tabular form showing the car number, line and destination, time and number of passengers carried for each car passing the points of observation. In using these data corrections have been made to allow for the proper seating capacity.

It is obviously impracticable to present here in detail the mass of traffic data which is before the Commission. However,

a clear idea of the conditions of loading during the morning and evening peak periods may be had from the following tables which are compiled from the observations of the company and the Commission. The data gathered by the city were not taken at the points of maximum loading and for this reason are not strictly comparable with the counts made by the company and the Commission. On account of this fact they are not presented in this connection. In studying the tables which follow, the seating capacity of the various types of cars operated by the company should be borne in mind. There are about 374 rebuilt and old type cars (numbered from 1 to 500) and these have a seating capacity of 42 in the summer which is reduced, because of the space occupied by the stove, to 40 in the winter. There are 100 cars numbered from 501 to 600, which are known as the "500" type and have seats for 50 passengers at all seasons. The cars numbered 601 and over are known as the "600" type, and there are about 60 of them. They seat 50 passengers in summer and 48 in winter. Tables I to XVIII, inclusive, show the loading conditions during the morning peak period on the various lines as disclosed by the counts made by the Commision.

TABLE I

COMMISSION'S COUNT.

NATIONAL-WALNUT LINE.

At Twelfth and Wa'nut *Cars inbound 6 to 8 a. m.*

Date.	Total No. of cars.	Cars carrying				
		Over 60.	Over 70.	Over 80.	Over 90.	Over 100.
July 18, 1912	34	15	5	2	0	0
" 19, "	30	8	6	0	0	0
" 20, "	33	11	7	0	0	0
Jan. 30, 1913	39	16	9	5	2	0
Feb. 1, "	36	18	9	2	1	0
" 3, "	36	18	12	0	0	0
" 4, "	37	17	12	4	0	0
Mar. 14, "	38	14	10	8	5	0
" 15, "	35	12	7	6	3	0
" 17, "	33	14	9	1	1	1
" 18, "	37	12	9	6	3	0

TABLE II.

COMMISSION'S COUNT.

NATIONAL-FOND DU LAC LINE.

At 12th and Walnut — *Cars inbound 6 to 8 a. m.*

Date.	Total No. of cars.	Cars carrying				
		Over 60.	Over 70.	Over 80.	Over 90.	Over 100.
July 18, 1912	33	5	2	2	0	0
" 19, "	36	5	4	3	2	0
" 20, "	31	13	8	4	2	0
Jan. 30, 1913	38	14	9	7	1	0
Feb. 1, "	35	14	9	6	1	0
" 3, "	33	15	9	2	0	0
" 4, "	34	14	7	2	0	0
Mar. 14, "	36	12	9	6	2	0
" 15, "	35	12	8	4	0	0
" 17, "	31	15	14	11	5	1
" 18, "	29	14	13	10	7	2

TABLE III.

COMMISSION'S COUNT.

THIRD—BURNHAM—8TH AVENUE LINES.

Cars inbound 6 to 8 a m.

Date.	Total No. of cars.	Cars carrying				
		Over 60.	Over 70.	Over 80.	Over 90.	Over 100.
At 3d and Chestnut.						
July 15, 1912	46	19	10	2	1	0
" 16, "	45	17	5	2	0	0
" 17, "	41	18	10	3	0	0
At 3d and Walnut.						
Feb. 18, 1913	42	2	0	0	0	0
" 19, "	51	2	0	0	0	0
" 20, "	46	8	1	0	0	0
" 21, "	51	8	0	0	0	0
Mar. 24, "	49	20	16	6	2	0
" 25, "	53	28	17	9	2	0

TABLE IV.

COMMISSION'S COUNT.

THIRD—BURNHAM—8TH AVENUE LINES.

Cars inbound 6 to 8 a. m.

Date.	Total No. of cars.	Cars carrying				
		Over 60.	Over 70.	Over 80.	Over 90.	Over 100.
At Reed and National,						
July 15, 1912	43	11	7	2	1	0
" 16, "	44	13	6	2	0	0
" 17, "	45	9	9	2	0	0
At Reed and Greenfield.						
Feb. 19, 1913	54	20	15	9	4	1
" 20, "	55	22	16	9	2	0
" 21, "	54	25	17	7	2	0
Mar. 24, "	55	8	4	1	0	0
" 25, "	56	24	12	3	0	0

TABLE V.

COMMISSION'S COUNT.

HOLTON—MITCHELL LINE.

At Clinton and Mitchell. *Cars inbound 6 to 8 a. m.*

Date.	Total No. of cars.	Cars carrying				
		Over 60	Over 70	Over 80	Over 90	Over 100
July 26, 1912	30	9	2	0	0	0
" 29, "	31	16	9	2	0	0
Feb. 28, 1913	29	13	9	4	3	0
Mar. 1, "	26	17	9	7	4	2
" 3, "	26	19	12	9	1	0
" 4, "	29	24	17	10	4	1
" 26, "	32	21	12	6	3	1
" 27, "	32	20	10	7	4	2

TABLE VI.

COMMISSION'S COUNT.

HOLTON—MITCHELL LINE.

Cars inbound 6 to 8 a. m.

Date.	Total No. of cars.	Cars carrying				
		Over 60	Over 70	Over 80	Over 90	Over 100
At Holton and Harmon.						
July 26, 1912	33	12	7	6	0	0
" 29, "	38	20	9	1	0	0
At Brady and VanBuren.						
Feb. 28, 1913	36	31	22	16	10	2
Mar. 1, "	37	24	20	14	7	1
" 3, "	28	21	15	14	7	2
" 4, "	37	22	6	3	1	0

TABLE VII.

COMMISSION'S COUNT.

OAKLAND—DELAWARE DIVISION.

Cars inbound, 6 to 8 a. m.

Date.	Total No. of cars.	Cars carrying				
		Over 60.	Over 70	Over 80.	Over 90.	Over 100.
At Brady and Van Buren.						
Feb. 28, 1913	21	9	6	4	2	0
Mar. 1, "	21	5	2	2	0	0
Mar. 3, "	17	9	6	5	3	0
Mar. 4, "	24	6	1	1	0	0
At Clinton and Mitchell.						
Feb. 28, 1913	24	13	5	3	1	0
Mar. 1, "	20	9	5	1	0	0
Mar. 3, "	23	12	8	5	2	0
Mar. 4, "	21	12	10	5	1	0
Mar. 28, "	27	14	8	3	3	1
Mar. 29, "	28	11	4	2	0	0

TABLE VIII.

COMMISSION'S COUNT.

VLIET—FIRST AVE. AND VLIET—HOWELL LINES.

At Clinton and Mitchell. *Cars inbound, 6 to 8 a. m.*

Date.	Total No. of cars.	Cars carrying				
		Over 60.	Over 70	Over 80.	Over 90.	Over 109.
July 18, 1912	28	12	7	2	0	0
July 19, "	28	11	5	2	0	0
Feb. 25, 1913	28	9	4	2	0	0
Feb. 26, "	30	14	10	4	0	0
Feb. 27, "	29	9	6	0	0	0
Mar. 26, "	31	12	9	1	0	0
Mar. 27, "	30	13	5	3	1	0

TABLE IX.

COMMISSION'S COUNT.

VLIET—FIRST AVENUE AND VLIET—HOWELL LINES.

At 12th & Vliet. *Cars inbound 6 to 8 a. m.*

Date.	Total No. of cars.	Cars carrying				
		Over 60.	Over 70.	Over 80.	Over 90.	Over 100.
July 18, 1912	28	12	5	2	0	0
" 19, "	31	11	3	3	0	0
" 20, "	32	14	7	3	1	1
Feb. 24, 1913	30	10	3	1	0	0
" 25, "	29	17	7	3	1	0
" 26, "	31	13	12	9	0	0
" 27, "	30	13	11	5	1	0

TABLE X.

COMMISSION'S COUNT.

EIGHTH—VIADUCT LINE.

At 7th & State. *Cars inbound 6 to 8 a. m.*

Date.	Total No. of cars.	Cars carrying				
		Over 60.	Over 70.	Over 80.	Over 90.	Over 100.
July 24, 1912	34	6	3	1	0	0
" 25, "	35	4	2	0	0	0
Jan. 22, 1913	27	15	7	2	0	0
" 23, "	30	6	3	1	0	0
" 29, "	31	14	8	2	1	0
May 27, "	39	9	4	0	0	0
" 28, "	40	11	2	0	0	0
" 29, "	40	11	9	1	1	0

TABLE XI.

COMMISSION'S COUNT.

THIRTY-FIFTH STREET LINE.

At 35th & Wells. *Cars inbound 6 to 8 a. m.*

Date.	Total No. of cars.	Cars carrying				
		Over 60.	Over 70.	Over 80.	Over 90	Over 100.
June 17, 1913	21	6	4	2	0	0
" 18, "	19	9	8	6	2	0
" 19, "	21	5	3	3	0	0

TABLE XII.

COMMISSION'S COUNT.

CLYBOURN STREET LINE

At 16th and Clybourn. *Cars outbound, 6 to 8 a. m.*

Date.	Tota No. of cars.	Cars carrying				
		Over 60.	Over 70.	Over 80.	Over 90.	Over 100.
Feb. 11, 1913	22	5	4	4	2	0
Feb. 12, "	25	3	1	0	0	0
Feb. 13, "	23	5	5	3	1	0
Feb. 14, "	26	5	3	2	1	0
Feb. 15, "	24	6	5	4	2	0
Feb. 17, "	25	7	7	4	3	0
Feb. 21, "	27	3	2	0	0	0
Apr. 1, "	26	1	1	0	0	0

TABLE XIII.

COMMISSION'S COUNT.

CENTER STREET LINE.

At 8th St. and Center. *Cars inbound, 6 to 8 a. m.*

Date.	Total No. of cars.	Cars carrying				
		Over 60.	Over 70.	Over 80.	Over 90.	Over 100.
Mar. 10, 1913	17	1	0	0	0	0
Mar. 11, "	17	3	0	0	0	0
Mar. 12, "	17	3	0	0	0	0
Mar. 13, "	18	4	1	0	0	0

TABLE XIV.

COMMISSION'S COUNT.

TWELFTH STREET LINE.

Cars inbound, 6 to 8 a. m.

Date.	Total No. of cars.	Cars carrying				
		Over 60.	Over 70.	Over 80.	Over 90.	Over 100.
At 12th and Vliet						
July 10, 1912	52	16	6	3	1	0
July 12, "	52	18	6	5	1	0
At 12th and Walnut						
Mar. 10, 1913	55	33	24	14	7	2
Mar. 11, "	59	32	22	10	8	3
Mar. 12, "	54	29	19	7	0	0
Mar. 13, "	52	33	24	18	12	4

TABLE XV.

COMMISSION'S COUNT.

NORTH AVENUE LINE.

Cars inbound 6 to 8 a. m.

Date.	Total No. of cars.	Cars carrying				
		Over 60.	Over 70.	Over 80	Over 90.	Over 100.
At 12th & North.						
July 29, 1912	19	3	1	0	0	0
" 30, "	20	3	2	0	0	0
At 8th & North.						
Mar 14, 1913	20	2	0	0	0	0
" 17, "	16	1	0	0	0	0
" 18, "	21	1	0	0	0	0
" 19, "	18	2	0	0	0	0

TABLE XVI.

COMMISSION'S COUNT.

STATE STREET LINES.

At 7th & State. *Cars inbound 6 to 8 a. m.*

Date.	Total No. of cars.	Cars carrying				
		Over 60.	Over 70.	Over 80.	Over 90.	Over 100.
July 30, 1912	35	7	1	0	0	0
" 31, "	34	7	2	2	0	0
Feb. 11, 1913	40	15	10	4	1	0
" 12, "	31	10	4	0	0	0
" 14, "	38	12	2	1	1	0
" 15, "	39	4	0	0	0	0
" 17, "	35	6	1	0	0	0
April 2, "	38	16	7	3	2	2
" 3, "	37	14	9	3	1	1

TABLE XVII.

COMMISSION'S COUNT.

WELLS-FARWELL LINE.

At Jackson and Biddle *Cars inbound 7 to 9 a. m.*

Date.	Total No. of cars.	Cars carrying				
		Over 60.	Over 70.	Over 80.	Over 90.	Over 100.
July 8 1912	39	6	3	3	1	0
" 9, "	39	8	1	0	0	0
Mar. 5, 1913	40	15	10	4	1	0
" 6, "	40	15	10	7	3	0
" 7, "	41	12	6	1	0	0
" 8, "	40	11	3	2	1	0

TABLE XVIII.

COMMISSION'S COUNT.

WELLS-FARWELL LINE.

At 11th and Wells. *Cars inbound 7 to 9 a. m.*

Date.	Total No. of cars.	Cars carrying				
		Over 60.	Over 70.	Over 80.	Over 90	Over 100.
July 8, 1912	36	5	2	1	0	0
" 9, "	36	6	4	1	0	0
Mar. 5, 1913	39	11	9	1	0	0
" 6, "	41	6	3	0	0	0
" 7, "	37	13	5	2	1	0
" 8, "	39	7	4	0	0	0

Table XIX shows the loading conditions on the various lines during the morning peak period, as disclosed by the traffic counts introduced by the company.

TABLE XIX.

Inbound 6-8 a. m.

Line.	Date.	Point of observation.	Total No. of cars.	Cars carrying				
				Over 60.	Over 70.	Over 80.	Over 90.	Over 100.
National—Walnut	Jan. 27, 1913	11th and National	18	0	0	0	0	0
National—Walnut	" " "	12th and Walnut	36	21	18	8	0	0
National—Fond du lac	Jan. 28, 1913	11th and National	17	2	1	1	0	0
National—Fond du Lac	" " "	12th and Walnut	30	21	12	11	3	1
Oakland—Delaware	Dec. 3, 1912	Clinton and Mitchell	27	8	4	2	1	0
Oakland—Delaware	" " "	Brady and Van Buren	22	6	1	0	0	0
8th—Viaduct	" 6, 1912	11th and Greenfield	30	20	10	7	7	3
35th Street	Jan. 2, 1913	35th and Vliet	21	8	7	3	1	0
Clybourn Street	Dec. 11, 1912	16th and Clybourn	26	4	2	0	0	0
Center Street	Jan. 3, 1913	3rd and Center	18	2	2	0	0	0
Twelfth Street	Feb. 25, 1913	12th and Vliet	41	29	21	10	4	1
North Ave.	Dec. 13, 1912	21st and North	18	4	1	1	1	0

Tables XX to XXXVII, inclusive, show the loading conditions on the various lines during the evening peak period, as disclosed by the Commission's count.

TABLE XX.

COMMISSIONS COUNT.

NATIONAL--WALNUT LINE.

At 12th and Walnut. *Cars outbound 5 to 7 p. m.*

Date.	No. of cars.	Cars carrying				
		Over 60	Over 70	Over 80	Over 90	Over 100
July 18, 1912	36	17	11	8	7	4
" 19, "	40	15	12	8	6	1
Jan. 29, 1913	38	17	10	5	2	0
" 30, "	39	14	8	5	0	0
" 31, "	37	16	11	5	2	0
Feb. 1, "	33	12	9	6	2	0
" 3, "	35	18	12	6	5	0
" 4, "	38	17	13	9	5	2
Mar. 14, "	36	25	19	16	9	4
" 15, "	31	7	4	2	1	0
" 17, "	36	17	13	7	4	2
" 18, "	39	16	11	10	5	0
" 20, "	38	22	15	11	6	2

TABLE XXI.

COMMISSION'S COUNT.

NATIONAL--FOND DU LAC LINE.

At 12th and Walnut — *Cars outbound 5 to 7 p. m.*

Date.	Total No. of cars.	Cars carrying				
		Over 60	Over 70	Over 80	Over 90	Over 100
July 18, 1912	24	12	11	6	3	1
" 19, "	25	12	8	6	4	1
Jan. 29, 1913	31	11	6	3	1	1
" 30, "	29	7	5	2	1	0
" 31, "	28	12	8	5	3	1
Feb. 1, "	29	7	5	2	0	0
" 3, "	32	12	9	6	2	0
" 4, "	32	15	10	6	4	1
Mar. 14, "	28	16	12	10	8	0
" 15, "	24	8	8	3	0	0
" 17, "	28	15	13	7	4	1
" 18, "	28	12	7	5	4	2
" 21, "	29	14	12	9	4	1

TABLE XXII.

COMMISSION'S COUNT.

THIRD—BURNHAM—8TH AVENUE LINES.

Cars outbound, 5 to 7 p. m

Date.	Total No. of cars.	Cars carrying				
		Over 60.	Over 70.	Over 80.	Over 90.	Over 100.
At Reed and National.						
July 15, 1912	43	22	16	11	8	4
" 16, "	46	21	13	7	3	1
" 17, "	46	18	11	6	1	0
At Reed and Greenfield.						
Feb. 18, 1913	47	23	17	9	4	0
" 19, "	49	21	16	11	7	2
" 20, "	47	23	17	8	5	4
Mar. 22, "	47	14	13	10	8	2
" 24, "	49	19	13	10	3	0
" 25, "	48	29	26	23	14	6

TABLE XXIII.

COMMISSION'S COUNT.

THIRD—BURNHAM—8TH AVENUE LINES.

Cars outbound, 5 to 7 p. m.

Date.	Total No. of cars.	Cars carrying.				
		Over 60.	Over 70.	Over 80.	Over 90.	Over 100.
At 3d and Chestnut.						
July 15, 1912	58	23	14	7	5	4
" 16, "	56	23	19	12	7	4
" 17, "	59	25	20	15	9	1
At 3d and Walnut.						
Feb. 18, 1913	59	30	24	18	10	1
" 19, "	60	29	23	23	11	2
" 20, "	60	32	24	18	8	2
Mar. 22, "	53	28	20	14	11	1
" 24, "	61	27	26	19	12	3
" 25, "	58	39	34	24	14	3

TABLE XXIV.

COMMISSION'S COUNT.

HOLTON-MITCHELL LINE.

At Clinton and Mitchell. *Cars outbound 5 to 7 p. m.*

Date.	Total No. of cars.	Cars carrying				
		Over 60.	Over 70.	Over 80.	Over 90.	Over 100.
July 26, 1912	28	16	11	8	4	1
" 29, "	29	12	11	9	4	0
Feb. 28, 1913	29	17	12	9	5	3
Mar. 1, "	27	7	4	1	0	0
" 3, "	30	17	16	13	8	4
" 4, "	27	20	15	12	5	4
" 26, "	27	19	17	15	11	6
" 27, "	27	19	15	12	6	5

TABLE XXV.

COMMISSION'S COUNT,

HOLTON-MITCHELL LINE.

Cars outbound 5 to 7 p. m.

Date.	Total No. of cars.	Cars carrying				
		Over 60.	Over 70.	Over 80.	Over 90.	Over 100.
At Holton and Harmon.						
July 26, 1912	36	22	19	12	5	1
" 29, "	34	20	17	10	7	3
At Brady and Van Buren.						
Feb. 28, 1913	37	22	18	13	9	2
Mar. 1, "	28	12	8	4	2	0
" " "	38	27	24	16	9	5
" " "	37	27	18	11	6	1

TABLE XXVI.

COMMISSION'S COUNT.

OAKLAND-DELAWARE LINE.

Cars outbound, 5 to 7 p. m.

Date.	Total No. of cars.	Cars carrying.				
		Over 60.	Over 70.	Over 80.	Over 90.	Over 100.
At Brady and Van Buren						
Feb. 28, 1913	27	10	6	3	2	0
Mar. 1, "	23	8	2	1	1	0
" 3, "	31	16	9	3	1	0
" 4, "	31	14	8	2	0	0
At Clinton and Mitchell						
Feb. 29, 1913	27	15	11	7	3	2
Mar. 1, "	23	8	6	4	1	0
" 3, "	30	13	11	7	5	2
" 4, "	30	15	9	5	3	3
" 28, "	27	18	15	8	6	1
" 29, "	21	9	7	2	1	0

TABLE XXVII.

COMMISSION'S COUNT.

VLIET-FIRST AVENUE AND VLIET-HOWELL LINES.

At 12th and Vliet *Cars southbound, 5 to 7 p. m.*

Date.	Total No. of cars.	Cars carrying				
		Over 60.	Over 70	Over 80.	Over 90.	Over 100.
July 18, 1912	38	18	10	7	2	0
" 19, "	40	15	10	5	0	0
Feb. 24, 1913	40	16	12	4	1	0
" 25, "	36	18	11	5	2	0
" 26, "	35	14	10	5	3	1
" 27, "	31	17	15	11	9	5

TABLE XXVIII.

COMMISSION'S COUNT.

VLIET—FIRST AVE. AND VLIET—HOWELL LINES.

At Clinton and Mitchell. *Cars outbound, 5 to 7 p. m.*

Date.	Total No. of cars.	Cars carrying				
		Over 60.	Over 70.	Over 80.	Over 90.	Over 100.
July 18, 1912	31	12	7	2	0	0
July 19, "	30	14	8	1	0	0
Feb. 24, 1913	23	12	9	7	4	3
Feb. 25, "	28	13	8	4	2	0
Feb. 26, "	28	12	9	6	0	0
Feb. 27, "	28	13	8	5	2	0
Mar. 26, "	21	11	5	3	2	0
Mar. 27, "	26	13	10	4	1	0

TABLE XXIX.

COMMISSION'S COUNT.

EIGHTH—VIADUCT LINE.

At 7th and State. *Cars outbound, 5 to 7 p. m.*

Date.	Total No. of cars.	Cars carrying				
		Over 60.	Over 70.	Over 80.	Over 90.	Over 100.
July 24, 1912	32	16	13	8	2	2
July 25, "	30	11	8	4	3	0
Jan. 21, 1913	33	11	5	3	2	1
Jan. 22, "	32	15	11	8	3	1
Jan. 23, "	32	13	9	2	1	0
Jan. 27, "	38	14	11	8	7	5
May 28, "	40	15	13	10	10	6
May 29, "	40	14	10	8	3	1

TABLE XXX.

COMMISSION'S COUNT.

THIRTY-FIFTH STREET LINE.

At 35th and Vliet. *Cars outbound, 5 to 7 p. m.*

Date.	Total No. of cars.	Cars carrying				
		Over 60.	Over 70.	Over 80.	Over 90.	Over 100.
Feb. 6, 1913	24	7	5	2	0	0
Feb. 7, "	28	8	3	2	1	0
Feb. 10, "	26	6	4	3	1	0
June 17, "	28	11	8	5	3	2
June 18, "	29	10	6	6	2	1
June 19, "	28	11	9	6	3	2

TABLE XXXI.

COMMISSION'S COUNT.

CLYBOURN STREET LINE.

At 16th & Clybourn. *Cars outbound, 5 to 7 p. m.*

Date.	Total No. of cars.	Cars carrying				
		Over 60	Over 70.	Over 80.	Over 90	Over 100.
Feb. 11, 1913	24	8	2	0	0	0
Feb. 12, "	25	10	7	5	4	0
Feb. 13, "	25	8	6	1	0	0
Feb. 14, "	25	9	5	3	0	0
Feb. 15, "	19	3	0	0	0	0
Feb. 17, "	26	10	3	1	1	0
Mar. 31, "	25	12	5	1	0	0
Apr. 1, "	24	6	3	0	0	0

TABLE XXXII.

COMMISSION'S COUNT.

CENTER STREET LINE.

At 8th & Center. *Cars outbound, 5 to 7 p. m.*

Date.	Total No. of cars.	Cars carrying				
		Over 60.	Over 70.	Over 80.	Over 90.	Over 100.
Mar. 10, 1913	26	2	0	0	0	0
Mar. 11, "	32	3	2	0	0	0
Mar. 12, "	35	3	1	0	0	0
Mar. 13, "	38	2	2	0	0	0

TABLE XXXIII.

COMMISSION'S COUNT.

TWELFTH STREET LINE.

Cars outbound, 5 to 7 p. m.

Date.	Total No. of cars.	Cars carrying				
		Over 60.	Over 70.	Over 80.	Over 90.	Over 100.
At 12th & Vliet.						
July 10, 1912	65	29	17	9	2	1
July 12, "	67	23	15	7	2	0
At 12th & Walnut.						
Mar. 10, 1913	69	33	22	14	4	0
Mar. 11, "	69	32	24	19	9	2
Mar. 12, "	68	30	20	16	8	2
Mar. 13, "	68	38	30	24	12	4

TABLE XXXIV.

COMMISSION'S COUNT.

NORTH AVENUE LINE.

Cars outbound 5 to 7 p. m.

Date.	Total No. of cars.	Cars carrying				
		Over 60.	Over 70.	Over 80.	Over 90.	Over 100.
At 12th & North.						
July 29, 1912	26	9	7	3	0	0
" 30, "	23	9	7	4	2	0
At 8th & North.						
Mar. 14, 1913	19	6	5	4	2	1
" 17, "	22	7	6	3	0	0
" 18, "	22	8	3	1	0	0
" 19, "	23	8	7	1	0	0

TABLE XXXV.

COMMISSION'S COUNT.

STATE STREET LINES.

At 7th & State. *Cars outbound 5 to 7 p. m.*

Date.	Total No. of cars.	Cars carrying				
		Over 60.	Over 70.	Over 80.	Over 90.	Over 100.
July 30, 1912.....	47	13	8	6	5	0
" 31, "	59	16	8	4	2	0
Feb. 11, 1913.....	51	17	12	6	5	0
" 12, "	51	22	12	6	0	0
" 13, "	51	18	9	3	0	0
" 14, "	52	14	5	1	0	0
" 15, "	47	15	9	2	0	0
" 17, "	50	24	9	2	1	0
Apr. 2, "	52	23	16	11	8	6
" 3, "	55	23	19	14	6	1

TABLE XXXVI.

COMMISSION'S COUNT.

WELLS-FARWELL LINE.

At Jackson and Biddle. *Cars outbound 5 to 7 p. m.*

Date.	Total No. of cars.	Cars carrying				
		Over 60.	Over 70.	Over 80.	Over 90.	Over 100.
July 8, 1912.....	54	17	10	3	0	0
" 9, "	53	22	14	7	1	0
Mar. 5, 1913.....	49	26	16	12	2	0
" 6, "	48	29	22	15	5	0
" 7, "	47	27	23	14	6	3
" 8, "	48	28	22	15	11	2

TABLE XXXVII.

COMMISSION'S COUNT.

WELLS-FARWELL LINE.

At 11th and Wells. *Cars outbound 5 to 7 p. m.*

Date.	Total No. of cars.	Cars carrying				
		Over 60.	Over 70.	Over 80.	Over 90.	Over 100.
July 8, 1912.....	48	12	4	3	0	0
" 9, "	46	10	3	2	1	0
Mar. 5, 1913.....	44	20	13	7	1	0
" 6, "	44	22	16	9	3	0
" 7, "	43	19	13	8	6	2
" 8, "	44	20	15	7	2	0

Table XXXVIII shows the loading conditions on the various lines in the evening peak period, as disclosed by the company's count.

TABLE XXXVIII.

COMPANY'S COUNT.

Outbound 5-7 p. m.

Line.	Date.	Point of observation.	Total No. of cars.	Cars carrying				
				Over 60.	Over 70.	Over 80.	Over 90.	Over 100.
National-Walnut	Jan. 27, 1913	11th & National.	25	6	4	3	1	0
National-Walnut	" " "	12th & Walnut...	38	19	15	11	8	0
National-Fond du Lac.....	" 28, "	11th & National.	23	8	5	4	1	1
National-Fond du Lac.....	" " "	12th & Walnut...	25	17	14	13	4	1
Oakland-Delaware	Dec. 3, 1912	Clinton & Mitchell	29	12	7	4	1	0
Oakland-Delaware	" " "	Brady & Van Buren.....	29	8	4	0	0	0
8th-Viaduct.....	Jan. 6, 1913	11th & Greenfield.....	22	8	5	2	2	1
35th Street.....	" 2, "	35th & Vliet.....	26	7	3	3	2	0
Clybourn St.....	Dec. 11, 1912	16th & Clybourn.	25	16	11	6	1	0
Center St.....	Jan. 3, 1913	3d & Center.....	18	5	4	1	1	0
Twelfth St	Feb. 25, "	12th & Vliet.....	50	24	18	11	8	5
North Ave.....	Dec. 13, 1912	21st & North....	23	3	2	2	2	1

The foregoing tables show clearly that on a number of the company's lines excessive crowding has occurred day after day during the rush hours. Many cars with seats for only 40 passengers were observed carrying 80, 90, 100 or 110 persons. Conditions of loading such as those disclosed in the evidence are certainly unreasonable, and must be improved if the public is to be adequately served. It is, therefore, necessary to determine how much improvement is required to render the service reasonably adequate, and to this end it is essential that the standards of rush hour and non-rush hour service, which this Commission regards as necessary for adequate service, should be accurately fixed.

STANDARDS OF SERVICE FOR THE NON-RUSH HOURS.

A public service corporation which undertakes to supply street railway service should furnish sufficient equipment to supply seats for all passengers who desire such service, unless there exist

operating or financial conditions which make it impossible or impracticable to do so. The testimony and the numerous exhibits offered in this proceeding disclose no conditions which warrant a deviation from this standard, except during three relatively short periods of the day, which may be designated as the morning, noon, and evening rush hours. The limits of these rush hours and the standards of service applicable to them will be discussed later. For the remainder of the day adequate service should contemplate the operation of a sufficient number of cars so that all passengers desiring to occupy seats may reasonably expect to do so, except under abnormal conditions.

The traffic data before the Commission show that on some of its city lines the company has voluntarily provided for a considerable part of the non-rush period more service than is necessary to comply with this standard and still maintain a reasonably frequent movement of cars. On other lines passengers have been obliged to stand day after day during the non-rush hours, when the traffic demand could have been readily foreseen and provided for. It appears from the testimony that the company has used as a basis for its non-rush hour schedules a load factor of 100 per cent for hourly periods. In other words, it has been its aim to supply as an average a number of seats equal to the number of passengers riding in any hour. At the hearings and in its brief the position was taken that this standard is consistent with reasonably adequate service. It was argued that the flow of traffic is naturally uniform, and that variations in the flow causing crowded conditions on cars are due almost entirely to distortions of headway which are the result of bridge and railroad crossing delays not subject to the company's control. In support of this contention the company in its brief cites traffic chart A-7 of Exhibit 1301 and points out that the heaviest load in a chosen hourly period occurred after the longest time interval. The conclusion drawn is that there is a direct relation between the loads of cars and the intervals elapsing between them. The data referred to are as follows:

Passengers per car.	Time interval preceding car.	Passengers per car.	Time interval preceding car.
44	5 minutes	19	1 minute.
48	2 "	58	5 "
52	6 "	27	4 "
36	2 "	35	3 "
54	4 "	46	5 "
52	4 "	48	2 "
73	6 "	35	6 "
29	4 "		

It is true that in the hour covered by these data the heaviest load came after an interval of 6 minutes, which was the greatest interval during the hour. But there were two other cars which came after a 6 minute interval, one of which had a load of 52 and the other only 35. Grouping the loads with relation to the time interval, results as follows:

Time interval preceding car.	Number of cars with specified interval.	Loads carried by cars.	Percentage variation max. from min.
6 minutes.	3	73, 52, 35	108%
5 "	3	58, 46, 44	32%
4 "	4	54, 52, 29, 27	100%
3 "	1	35	.....
2 "	3	48, 48, 36	33%
1 "	1	19	.....

These data show that for this chosen period there is no fixed relation between the load on a car and the time interval preceding it, and the further study of other traffic charts fails to disclose any such relation. It is, therefore, evident that the variation in the loading of cars cannot be attributed entirely to distortions of headway, although this factor undoubtedly has some influence in the matter. The company has, in our opinion, emphasized too strongly the importance of railroad crossing and bridge delays as affecting headway distortion. Little specific testimony was introduced with regard to this point. An examination of the official records of bridge openings kept by the city, however, shows that in the non-rush hours delays from this source are almost negligible. Delays of only a few minutes duration should not seriously impair schedules, since the time lost can be easily made up when travel is light, and relatively few delays of more than five minutes duration occur. The fol-

lowing table shows for four of the most important bridges: the total number of openings, the number of openings lasting five minutes or over, and the average duration of the openings which last five minutes or more during the non-rush hours for three representative winter months and two representative summer months. It should be noted that in the winter when the street car traffic is the greatest, the bridge openings are at a minimum.

TABLE XXXIX.

Showing characteristics of bridge delays during the non-rush hours from 9 a. m. to 4:30 p. m. and from 7 p. m. to 6 a. m.

	Month.	Total No. of lifts.	No. of lifts lasting 5 min. or over.	Ave. duration of lifts lasting 5 min. or over.
				Minutes.
East Water street bridge.....	Dec. 1912....	576	40	6.6
	Jan. 1913....	448	19	6.9
	Feb. "	315	8	6.0
	June "	1,103	118	6.2
	July "	1,580	164	6.5
West Water street bridge.....	Dec. 1912....	298	27	6.9
	Jan. 1913....	192	9	5.4
	Feb. "	80	4	8.7
	June "	678	128	6.6
	July "	816	130	7.3
Grand avenue bridge.....	Dec. 1912....	220	9	5.5
	Jan. 1913....	182	3	6.6
	Feb. "	125	0	.0
	June "	336	17	6.1
	July "	422	8	7.0
Michigan street bridge.....	Dec. 1912....	227	12	6.6
	Jan. 1913....	177	4	7.2
	Feb. "	129	1	5.0
	June "	346	16	5.7
	July "	305	13	5.5

Delays at railroad crossings continue throughout the year and undoubtedly cause considerable distortion of headway at times, but within the next year or two it is expected that the grade crossings which cause the greatest complaint will be eliminated. The company has argued at length that delays from these sources and the consequent distortion of headway are not within its control, and that it should not be *penalized* by the requirement that sufficient service be provided to give all persons a seat under such conditions. It is apparent, however, that these conditions are within the company's control, to a considerable extent at least. For example, if the two branches of the National-Walnut

line were separated, each operating from the center of the business district, delays from bridges would be entirely eliminated on the Walnut street end of the line. Rerouting on other lines would make possible a further mitigation of the delays from bridges and railroad crossings, and a thorough study of this matter should be made by the company with a view to overcoming such difficulties. But even though some causes of distortion should exist which cannot be changed by the company, it should not regard itself as *penalized* if some additional service is required to alleviate such conditions. The traffic data show clearly that there is a wide variation in the loading of cars during the non-rush hours, and whatever the cause of this condition may be, while it exists it must be given consideration in determining the amount of service necessary.

With this variation of loading in mind, it is obvious that if on the average in a given period only 100 seats are provided for every 100 passengers riding, a large number of persons will be obliged to stand day after day. The traffic data submitted by the company, as well as that gathered by the city and the Commission, show that this has been the case in the past under schedules drawn on the basis of a load factor of 100 per cent. This standard is, in our opinion, too low for adequate service. A greater number of seats per passenger on the average must be supplied in order that all passengers may be properly accommodated. What the proportion should be, can be ascertained approximately by a study of the actual conditions of travel as shown by the traffic data.

Such a study has been made by our engineering staff. The average loads for hourly periods on each line in the non-rush hours were computed by dividing the total number of passengers carried in each period by the number of cars operated. For each such period the representative maximum load was then selected by inspection of the traffic charts. In order to eliminate unusual conditions from the study, the actual maximum load was not chosen if it was very large on account of abnormal conditions; and in a number of cases one or two other unusually large loads were not considered for the same reason. Where conditions throughout any hourly period appeared to be very abnormal, the period was eliminated entirely from the calculation. The ratio between the representative maximum load for

each hourly period used in the calculation and the average load for the same period was computed, and from these the average ratio for all observations made on all of the lines was calculated. An extensive investigation was made to determine the proportion of passengers who stand by preference, the results of which were introduced in evidence, and an allowance for the condition disclosed was made in fixing upon the number of seats per 100 passengers which should be supplied in order that those passengers who desire a seat may be able to have one. As a result of these calculations, which cover thousands of observations on all of the Milwaukee lines, and from which abnormal conditions have been eliminated, it appears that during the non-rush hours an average of 133 seats for every 100 passengers demanding service should be provided in order to fulfill the requirements of adequate service.

The traffic charts show that on several of the city lines the amount of travel at some periods of the day is so light that if only sufficient cars were operated to supply 133 seats for every 100 passengers riding, the time interval between cars would be too great to properly accommodate the public. For this reason it is necessary to specify what shall be the minimum headway at such periods. Careful consideration has been given to the character of the travel during the various periods of the non-rush hours in formulating the minimum headway requirements specified in the order, and in our judgment they are necessary for the maintenance of adequate street car service in a city of the size of Milwaukee.

STANDARDS OF SERVICE FOR THE RUSH HOURS

Traffic conditions in Milwaukee, as in other cities, vary greatly during the day, according to the habits of the patrons of the various lines. From the traffic data introduced in this proceeding, it appears that three general rush periods should be recognized, namely, morning, noon, and evening. The morning rush at present occurs some time between 6 and 9 a. m., varying on the different lines. The noon rush is of short duration on most lines and occurs at or near 12 noon. The evening rush is greater than the other two, and varies on the different lines;

but the half hour of maximum loading in most cases occurs between 4:30 and 7 p. m.

The testimony shows that at the peak of the evening rush period the company now operates about 242 per cent as many cars as are used normally in the non-rush hours. This great increase in the number of cars is necessary to supply 50 seats for every 100 passengers on the average during the period of maximum strain. If the standard which we have fixed for the non-rush hours in order to provide a seat for each passenger, namely 133 seats for every 100 passengers on the average, should be applied to the evening peak period, it is obvious that the number of cars operated would have to be about two and two-thirds times as great as at present. It would be impossible to operate this number of cars through the center of the city on the existing tracks without very seriously congesting the street traffic; and it is doubtful whether, even with additional track facilities, it would be practicable from an operating standpoint to so increase the service. To enforce such a standard, if it were possible, would necessitate vast expenditures for additional cars, new tracks, increases in the capacity of power plants, substations, and the distribution system, and for the employment of a large force of men to run the cars for a few hours only. This expense burden would necessarily have to be borne by the public in some manner. But aside from all financial considerations it is improbable that the residents of Milwaukee would ever be satisfied with such an arrangement during the rush hours. Speed is an important consideration when people are going to and from their work, and comparatively few persons would be content to see cars go by in which there is comfortable standing room available and to be obliged to wait until a car with some vacant seats in it arrived. Observations in Milwaukee show that many passengers insist on boarding the first car which comes along, even though it is crowded, rather than wait for the next car, although one bound for the same destination is in sight. This habit, however, may be accentuated by the fact that in the past passengers have had no reason to believe that the next car would be less crowded than the one they were trying to board; and the operation of more cars may mitigate this tendency. With these operating, financial and social considerations in mind, it is, in our opinion, impracticable, if not absolutely impossible,

to supply every passenger with a seat during the period of maximum loading, and any order requiring such service would not be reasonable under the existing conditions. However, we believe that a much larger proportion of the passengers riding in the rush hours can be supplied with seats than was the case at the time the traffic data were taken. It is unreasonable to crowd passengers into the cars to such an extent that they are subjected to serious inconvenience and discomfort, and the movement of the cars is impeded by the slowness of loading and unloading. The standard of service for the rush hours must therefore fall somewhere between these two extremes.

Considerable testimony was introduced with regard to the comfortable maximum load of cars. The company's assistant general manager testified that he regards as proper, fair and equitable, and not a crowded condition for the peak period, a load in which one-half of the passengers are obliged to stand. He asserted that on some of the Milwaukee cars an even greater load than this can be carried without serious discomfort to passengers. The company introduced the report of the Chicago Board of Supervising Engineers, in which an average load for half-hour periods in the rush hours of 70 passengers for cars having a seating capacity of 40, or a load factor of 175 per cent was recommended as a basis for rush hour schedule making in Chicago. The company also placed in evidence and quoted with approval the report of Ford, Bacon and Davis to the Pennsylvania railroad commission in 1911, in which four square feet of aisle and platform space per standing passenger was recommended as furnishing comfortable standing room. Tests were made by employes of the company on cars of each type in order to ascertain whether this standard would apply to the Milwaukee cars, and several of these employes testified that when the standing room was filled on this basis, there was ample room for the comfort and free circulation of passengers. These tests, however, were made in the summer when light clothing is worn and at the place of employment of those standing in the cars, many of whom were not dressed as they would have been on their way to or from work. The cars used for the tests were not in operation at the time, and the seats were unoccupied.

The Commission's engineers later conducted a series of observations in order to ascertain how many passengers can com-

fortably stand in the various types of cars, and still allow for the free movement of persons boarding and alighting from cars under ordinary operating conditions. These observations, which were placed in evidence, were made on cars in regular operation during the morning and evening peak periods, and the passengers observed include various classes of people such as mechanics, clerks, business men and shoppers. The observers passed through the cars during the various stages of loading and noted the number of persons in each part of the car when, in their opinion, the inclusion of any more would seriously retard the free circulation of passengers. This estimate of a reasonable standing load is based upon an even distribution of standing passengers throughout the various parts of the car. If this even distribution is not maintained, fewer passengers can be allowed to stand without causing material delay because of the retardation of the movement of passengers boarding and alighting from cars.

The following table shows the standing capacity of the various types of cars, on the basis of four square feet of aisle and platform space per standing passenger, as estimated by the company, and as estimated by our engineers on the basis of the tests conducted on cars actually in operation.

TABLE XL.

Showing number of passengers who can comfortably stand in the various types of cars, according to the estimates made by the company and the Commission.

Portion of car.	Rebuilt type.		500 type.		600 type.	
	Company's estimate.	Commission's estimate.	Company's estimate.	Commission's estimate.	Company's estimate.	Commission's estimate.
Front platform...	8	6	11	10	9	8
Front reservoir..	6	6	9	7	9	10
Aisle.....	9	7	10	10	10	9
Rear reservoir....	6	6	9	7*	9	10
Rear platform....	8	5	11	9	8	8
Total.....	37	30	50	43	45	45

*Reduced to 5 in winter when the stove is installed.

The total capacity of the various types of cars as estimated by the company and by our engineers is shown in the following table:

TABLE XLI*

Type of car.	Company's estimate.			Commission's estimate.		
	Seating capacity.	Standing capacity.	Total capacity.	Seating capacity.	Standing capacity.	Total capacity.
Rebuilt	44	37	81	42	30	72
500	52	50	102	50	43	93
600	52	45	97	50	45	95

*NOTE:—It will be observed that the Commission's estimate of seating capacity does not agree with the company's estimate. It is conceded that it is possible to seat passengers according to the company's estimate by crowding the short longitudinal seats, but our observations show that when cars are crowded the number occupying the seats is more often 40, 48 and 48 respectively. The Commission's estimate of 42, 50 and 50 is therefore an average between the two extremes. Under winter conditions there are two seats less in the rebuilt and 600 type cars, making the average 40, 50 and 48, respectively.

In considering the comfort of passengers and efficiency in the movement of cars in Milwaukee, the conditions on cars of different types in other cities and recommendations with regard to them has been given very little weight. The testimony does not show that the cars used in Philadelphia or Chicago are comparable with the cars used in Milwaukee in this regard, and without a careful comparison of dimensions and the arrangements of platforms and seats, any conclusions drawn from such sources would be unsafe. We regard the total capacity of the various types of Milwaukee cars as ascertained by our engineers from actual observations on cars in operation, as the maximum loads which cannot normally be exceeded without subjecting passengers to unreasonable discomfort and delay. These maximum loads for winter and summer are as follows:

Type of car	Maximum comfortable load	
	Winter	Summer
Rebuilt and open platform	70	72
500	93	93
600	93	95

Having thus determined the maximum loads, it becomes necessary to ascertain what average loading should be adopted in drawing schedules in order that under normal conditions few cars, if any, shall exceed the maximum. The company throughout this proceeding has taken the position that the flow of traffic in the rush period is naturally uniform and that most of the variation in loading which is shown by the traffic charts is due to bridge and railroad crossing delays, and the consequent dis-

tortion of headway, which are not subject to the company's control. As noted with reference to non-rush standards, it is expected that delays at railroad crossings will soon be largely eliminated by the process of grade separation. It also appears that too much importance has been given by the company to bridge openings as affecting distortion of headway in the rush hours. The official records of bridge openings kept by the city show that during the rush hours the number of lifts which last five minutes or over is relatively small, especially in the winter when the heaviest street railway traffic occurs. The following table shows the characteristics of the bridge delays at four of the most important bridges during the rush hours for three representative winter months and two representative summer months:

TABLE XLII.

Showing characteristics of bridge delays during the rush hours from 6 to 9 a. m., and from 4:30 to 7 p. m.

	Month.	Total No. of lifts.	Number of lifts lasting 5 min. or over.	Ave. duration of lifts lasting 5 min. or over.
				Minutes.
East Water street bridge.....	Dec. 1912.....	272	23	6.7
	Jan. 1913.....	151	3	5.3
	Feb. "	110	1	5.0
	June "	481	37	6.3
	July "	752	54	6.6
West Water street bridge.....	Dec. 1912.....	139	14	6.6
	Jan. 1913.....	76	4	5.0
	Feb. "	41	2	5.5
	June "	327	40	6.2
	July "	365	44	6.7
Grand avenue bridge	Dec. 1912.....	87	3	6.0
	Jan. 1913.....	55	1	5.0
	Feb. "	47	2	5.0
	June "	169	9	6.6
	July "	205	11	5.4
Michigan street bridge.....	Dec. 1912.....	82	5	7.4
	Jan. 1913.....	52	0	.0
	Feb. "	30	1	5.0
	June "	207	10	5.9
	July "	236	12	5.3

It should also be noted that many of the trippers operated in the rush hours start from the business district and are not affected by either bridges or railroad crossings. Furthermore, as pointed out with reference to the non-rush hours, the effect of such delays can be mitigated to a considerable extent by changing the routing of a number of lines.

The company argues, on the presumption that the flow of traffic is naturally uniform, that it is reasonable to use the maximum comfortable loading as an average for arranging schedules. In other words, it maintains that if a load of 100 passengers on a car with seats for 50 is fixed upon as the maximum load consistent with the comfort and free movement of passengers, that it is reasonable to schedule only enough cars to supply on the average 50 seats for every 100 passengers riding in a given period. In support of this position reference was made to the report of Ford, Bacon and Davis to the Pennsylvania railroad commission, which was introduced in evidence. An examination of the full report, however, shows that Ford, Bacon and Davis recognize a distinct variation in the flow of traffic in the rush hours. The use of the maximum comfortable load based on four square feet of aisle and platform space per standing passenger as an average load for schedule making purposes was recommended only as a temporary expedient pending the construction of additional equipment, as is shown by the following quotation from the report:

Improved Service Practicable Immediately.

"As the present rush-hour service is considerably less than the standard recommended, this plan cannot be put into effect until additional cars and power are secured.

"During the time of construction of this equipment we recommend that the company operate a service as far as the number of present cars and the capacity of its power system will permit, which will provide on each line during the busiest half-hour an *average* car loading equal to the recommended standard of maximum car capacity. This standard of service immediately practicable would require the operation of 1,987 cars, an increase of 315, or 19 per cent over the winter schedule, and of 205 cars, or 11 per cent over the summer schedule. Although this would result in a considerable improvement of car loading there would still be carried regularly maximum loads up to the crowding limit of the car."

Upon the completion of the equipment needed for the additional service, a standard was recommended which made an allowance for the recognized variation in the loading of cars, as is shown by the following quotation from the report:

"From a large number of observations, both in Philadelphia and elsewhere, we find that the maximum carloads on any line in a half-hour approximate 25 per cent more than the *average* loading for that half-hour. Thus, for example, if 76 is fixed as the maximum load of the Pay-Within car, the *average* loading for the heaviest half-hour would be 61 passengers. Consequently, our recommendation for standard service would require approximately 25 per cent more cars to pass the maximum point of loading on each line at the busiest half-hour than would be required for the *average* loading just referred to, and this as calculated for the entire system would result in an additional number of large cars in operation of about 14 per cent."

The Commission's engineering staff has made a comprehensive study of all of the traffic data submitted in this case in order to ascertain how much variation in the flow of traffic exists in Milwaukee during the rush hours under normal conditions. From this study it is very clear that the flow of passengers during the peak period is far from regular. Its irregularity, in fact, appears to be so great that under normal conditions it will be difficult to prevent some cars being loaded beyond their comfortable carrying capacity without placing an absolute restriction upon the load which any car may carry, or without much more complete supervision than is now afforded by the company. Taking into consideration all of the circumstances connected with the operation of cars in Milwaukee, it is our judgment that the minimum standard for the rush hours consistent with adequate service is a standard under which for the half-hour of maximum travel in each rush period, an average of 67 seats shall be provided for each 100 passengers demanding service.

THE TRANSITION BETWEEN THE RUSH HOURS AND THE NON-RUSH HOURS.

The company's assistant general manager, in discussing standards of service for the rush hours in his testimony, expressed the opinion that the maximum load factor should apply only to the 15 minute period representing the peak of the traffic curve. From this point, he said, the ratio of seats to passengers should gradually increase so as to conform to the non-rush standard at the beginning and end of the rush hours. This principle, we

believe, is substantially correct. It is certainly true that no more passengers should be required to stand than is necessary, and the standard applicable to the period of maximum strain should not be applied when the strain is less great immediately before and after the peak. However, it is practicable to maintain the non-rush standard of 133 seats for every 100 passengers over a part of the rush hours without materially increasing the cost of service. This can be accomplished by adding sufficient cars, as the traffic increases, to maintain the non-rush standard until the full quota of cars necessary for the rush hour standard in the peak half-hour is in operation. These cars can then be run until the traffic falls off to such an extent that the non-rush standard is being complied with, after which they can gradually be taken off until at the end of the rush hours only the normal non-rush equipment will be in operation. This arrangement will increase the period during which trippers are used and will make necessary the operation of a somewhat greater total number of cars during the entire rush period than would be necessary to give the required service for the maximum half-hour. It will therefore increase the platform duty of tripper crews, but, as pointed out by the company, these crews are now employed for such a short period that in order to secure sufficient men a somewhat higher wage than would be needed for a longer spread of duty is required. However, this method of transition between the two standards will make appreciably shorter the period during which some passengers must stand.

SUPERVISION.

The testimony shows that the supervision of street car traffic in Milwaukee has not been adequate to cope with the situation, and in our opinion, a considerable part of the distortion in headway and crowding of cars noted in the traffic data might have been avoided with a more comprehensive system of supervision. The supervisors now employed are apparently efficient, but their number is not sufficient to render effective service on the entire system. The enforcement of the standards of service ordered herein will make even more imperative an improvement in this regard. From a careful study of the situation as it

now exists and of the probable effect of an increase in the number of cars operated, it appears that traffic officers with authority over trainmen should be stationed at the important transfer intersections and at such other points as will materially assist in the movement of traffic and the maintenance of schedules during the rush hours. These officers should, insofar as practicable, limit the loads on individual cars to the comfortable carrying capacity of the various cars, namely for the open platform and rebuilt cars, 70 in the winter and 72 in the summer; for the 500 type cars 93 throughout the year; and for the 600 type cars 93 in winter and 95 in summer. From 40 to 45 such traffic officers as a minimum will be necessary to properly supervise the Milwaukee system.

The fare collectors now stationed at a number of important loading points to allow passengers to enter at the front door of cars have added much to the efficiency of the service by facilitating the movement of cars. The number of fare collectors should be increased so that at all important loading points passengers may enter the cars at the front door as well as at the rear door in the rush hours.

SCHEDULES.

In its brief and in its oral argument, the city of Milwaukee has taken the position that, to be effective, the order of the Commission should specify definite schedules for each city line in addition to fixing standards of service for rush and non-rush periods, for the purpose of accurately checking the service. The company, on the other hand, has laid great stress upon the necessity of a flexible schedule, and has taken the position that schedule making is a managerial detail which should be left for the company to control. The company's position in this regard we believe to be correct. Conditions of traffic vary from year to year and with the seasons of the year, and to meet such changes schedules must be flexible. Should the Commission specify the headway on each line, it would be necessary for it to make a constant study of changes in the volume of traffic and modify its orders from time to time. In short, the Commission would, by so doing, place itself at the service of the company, filling

a need which should rather be met by an efficient traffic study department. The order has been carefully drawn, and we believe that it will be possible for the city or individuals to prove a violation thereof by making a count for the same period on three successive days at any point where the standards are apparently not being fully complied with.

OTHER FEATURES OF SERVICE.

Much testimony was introduced with regard to car construction as affecting the comfort and convenience of passengers. It was claimed that the seats in the new 600 type cars are too narrow from window to aisle to allow two medium sized persons to occupy a single seat together in comfort, and that the steps are too high for the convenience of passengers, especially women. The arrangement of signs and their wording was criticised. It was shown that not all lines are equipped with dash-board route signs, that the illuminated roof signs do not in all cases designate accurately the actual destination of the cars, and that they are not changed at both ends of the car after each trip. These conditions were said to result in some confusion to passengers. Criticism was also directed against the bar and chain which are placed on the small platforms of the rebuilt cars, presumably for the purpose of separating incoming from outgoing passengers. The testimony and the observations of our staff show that, owing to the presence of this bar and chain, passengers cannot ordinarily board and alight at the same time from the rear platform, and their usefulness in this regard is therefore not apparent. On the other hand, they offer an obstruction to passengers, especially those with grips or parcels, and are a source of considerable delay at heavy loading points. The chains have often been stretched across the exit when persons have desired to leave the cars and they have been forced to pass out on the entrance side of the bar. Since these bars and chains cause much inconvenience to passengers and serious delay in loading and are in no sense beneficial to passengers, they should be removed. With regard to signs, the company's assistant general manager stated at the hearings that changes in the wording of a number of the destination signs have been deferred pending the renaming of

certain streets. For this reason no action will be taken at this time with reference to this matter. However, all cars in service will be required to carry both dash-board route signs and roof destination signs. In view of the complaints relative to the width of seats, the height of steps, and other features of car construction, we regard it as necessary that in the future all plans for new passenger cars and for the remodeling of old passenger cars shall be submitted to the Commission for approval with regard to such matters as are, in its opinion, important as affecting adequate service. Proposed changes in signs on the cars now in service should also be submitted to the Commission for approval.

DOUBLE TRANSFERS.

The question of double transfers in Milwaukee has been considered by the Commission in previous decisions. On January 30, 1912, an order was issued requiring double transfers on the Twelfth street and Eighth street cross-town lines. (*City of Milwaukee v. T. M. E. R. & L. Co.* 8 W. R. C. R. 535). Later in a case of the same title (10 W. R. C. R. 352) the further extension of the double transfer system was considered. On page 357 of that decision, the following language was used:

"Under the present circumstances, it does not appear necessary to extend the use of the double transfer. Circumstances may arise in the future when the large amount of cross-town travel through what is at present the outskirts of the city will have developed to such an extent as to make further use of the double transfer desirable. It does not appear, however, that such an extension is reasonable at the present time."

On the basis of the investigation made by the staff in this case, it is our opinion that in order to facilitate travel and relieve congestion in the downtown district, it is now necessary that this matter should receive general consideration. The company should make a study of the matter and extend the double transfer system where it is necessary to secure the desired results, and if this is not accomplished in a satisfactory manner, it will be necessary for the Commission to make further investigations and formally consider this question.

NEW EQUIPMENT.

At the hearings on March 21 and April 1, 1913, the company's assistant general manger testified that in 1909 the company ordered 100 new cars which were received in 1910 and 1911, and that during December 1912, and January and February 1913, 30 additional cars, the first of the 600 type, were received. At the hearing April 19, 1913, he stated that another lot of 30 new cars had been ordered and that they would be in operation by August 1, 1913. At the same hearing he also stated that the company would provide still another lot of 30 new cars of the 600 type to be available for service some time in the fall of 1913, and this statement was corroborated by counsel. Later testimony shows that 30 new cars were placed in operation in August, so that at present 60 cars of the 600 type are in use. The 30 additional cars, which the company volunteered to provide, should in the near future be ready for operation. Our engineering staff has estimated the number of cars which are necessary to comply with the standards of service ordered herein, under the traffic conditions shown by the exhibits in this proceeding, and it appears that, with the addition of the 30 new cars this fall, a sufficient number will be available to care for the traffic conditions disclosed by this investigation. The flow of street car travel has probably been augmented since these traffic counts were taken, and it will unquestionably continue to increase with the growth of population and the extension of the city boundaries. This constant growth will be automatically provided for by the application of the standards which we have prescribed and which are the result of a long and painstaking study by our engineering staff. To comply with these standards the company will be obliged to add more equipment as the traffic conditions demand it.

EARNINGS, OPERATING EXPENSES AND FIXED CHARGES.

Counsel for the company argued that under the rates provided for it by this Commission in the order issued August 23, 1912, in the so-called *Three-Cent Fare Case, (City of Milwaukee v.*

T. M. E. R. & L. Co. 1912, 10 W. R. C. R. 1) the earnings of the said respondent company will not be sufficient to cover reasonable amounts for operating expenses, including depreciation and interest and profit on the fair value of the property devoted to the service under existing conditions, or without any further improvements in the service. A great deal of testimony to the same effect was also introduced in the present case. If these arguments and testimony are sound and well-founded, then it not only follows that the company would be justified in asking for higher rates, but that under the law it would be the plain duty of this Commission to authorize proper and necessary increases in rates. Under the constitution, as well as under the statutes, a public service company is ordinarily entitled to rates that will yield reasonable amounts for operating expenses, including depreciation, and for interest and profit on the fair value of the property employed. Of this, in the long run, such companies cannot be deprived even if the Commission were short-sighted enough to attempt it. The alleged failure of the rates provided in the *Fare Case* in question to yield reasonable returns is partly attributed to the increased cost of operation since 1910 and partly to the alleged fact that the valuation of the property and the rate of return that was allowed in the case cited are too low. These allegations, it appears to us, are not well-founded. In order to show that this is the case, it will be necessary to point out and examine some of the leading items both in the operating expenses of the company and in the value of the property.

In discussing the groups of expenses which have entered into the income accounts The Milwaukee Electric Railway and Light Company will, for convenience, be referred to as "the city company" or merely as "the company" and the Milwaukee Light, Heat and Traction Company will be referred to as "the traction company". Likewise, the proceeding before the Commission in the matter *City of Milwaukee v. The Milwaukee Electric Railway and Light Company* cited above, will be designated as the *Fare Case.* In apportioning and revising the expenses, no changes have been made in the expenses for power, conducting transportation, expense burden, or injuries and damages over those reported by the company and with the exception of the last named item will be excluded from the discussion.

Maintenance of Way.

Up to January 1, 1912, it was the company's practice to divide the above expense on a car-hour basis, but at this date the direct charge method was employed. However, an analysis of the monthly charges indicates quite clearly that on March 1, 1912, the old car-hour basis was again adopted and carried through for the remainder of 1912. The first six months of maintenance of way expenditures by months illustrate the change in charges to the city and traction companies:

1912.

	City Co.	Traction Co.
January	$11,083.35	$6,710.94
February	13,261.81	7,456.99
March	18,596.66	2,788.64
April	19,155.37	2,857.24
May	18,313.18	2,875.27
June	13,233.38	2,421.37

It will be noted that the charge to the city company increases from $13,261.81 in February to $18,596.66 in March, while the reciprocal effect for the traction company shows a decrease from $7,456.99 in February to $2,788.64 in March. This change is still more marked in the following percentage analysis.

Year 1912.	City Co.	Traction Co.	Total.
	Per cent.	Per cent.	Per cent.
January	60.21	[1] 39.79	100.00
February	61.21	[2] 38.79	"
March	86.96	13.04	"
April	87.02	12.98	"
May	86.49	13.51	"
June	84.53	15.47	"
July	84.19	15.81	"
August	84.17	15.83	"
September	84.50	15.50	"
October	86.92	13.08	"
November	86.88	13.12	"
December	87.16	12.84	"

[1] Includes 3.34% Racine.
[2] Includes 4.37% Racine.

In the above table the per cent charge to the city company increased from 61.21 in February to 86.96 in March and practically remained as high as this for the balance of the year. On

the other hand, the charge to the traction property decreased about 25 per cent after the month of February.

These data indicate that in order to obtain a fair division of those expenses an apportionment on a unit basis must be resorted to. In the *Fare Case* the maintenance of way for 1911 was divided as follows:

Total	$212,146.54	100.00 per cent
City company	118,427.69	55.82 "
Traction company	93,718.85	44.18 "

Approximately 56 per cent of this expense was charged to the city company in the *Fare Case,* while the city company's division allocated 85.24 per cent to the city company. Comparing 1912 with 1911 we find that the city company charged as follows:

Company Basis.

1911—Total	$212,140.54	100.00 per cent
City company	180,822.33	85.24 "
Traction company	31,324.21	14.76 "
1912—Total	224,922.17	100.00 "
City company	183,199.70	81.45 "
Traction company	41,722.37	18.55 "

The decrease from 85.24 to 81.45 in the percentage charge to the city company is caused mainly by the direct charges employed during January and February of 1912, but the percentage to the city company for 1912 is still too high.

To find a proper basis for apportionment it is necessary to take into consideration the relative percentage increases in car-miles and miles of track as these units of apportionment were used to determine the charge to the city company.

Car-Miles.

	City Co. per cent	Traction Co. per cent	Total per cent
1911	81.49	18.51	100
1912	82.28	17.72	100
1913*	82.25	17.75	100

Miles of Single Track.

1911	38.26	61.74	100
1912	38.61	61.39	100
1913*	38.72	61.28	100

* Ended June 30.

The per cent of car-miles and miles of track have slightly increased for the city company as shown in this table, and therefore the per cent apportionment for 1912 should be slightly higher than that used for 1911 in the *Fare Case*. It would seem that 58 per cent for the city company for 1912 is a fair basis. The segregation follows:

Total	$224,922.07	100 per cent
City company	130,454.80	58 "
Traction company	94,467.27	42 "

Beginning with January 1, 1913, the city company again inaugurated the direct charge method of segregation. Data for nine months of this year, January 1 to September 30, show the following amounts and percentages:

Total	$195,571.57	100.00 per cent
City company	114,935.31	58.77 "
Traction company	80,636.26	41.23 "

The above divisions on a direct charge basis substantiate the allocations made upon unit bases in the *Fare Case*. The division is approximately 59 per cent to the city company and 41 per cent outside.

Taking maintenance of way per mile of track for the first six months of 1912 and 1913, we have the following figures:

Maintenance of Way Per Mile of Single Track, January to June.

	City Co.	Traction Co.
1912	$661.56	$118.80
1913	549.17	238.39

According to these figures maintenance per unit for the traction company shows an increase from $118.80 in 1912 to $238.39 in 1913, or 100 per cent increase. However, placing the six months of 1912 entirely on a car-hour basis causes the unit to be $65 for the traction company or an increase in 1913 of about 180 per cent. For the city company the decrease per unit is shown as from $661.56 in 1912 to $549.17 in 1913, but the corrected figure for 1912 is $720, making the decrease here approximately 24 per cent.

The above figures indicate that it is safe to assume a percentage of 60 to the city company and 40 to the traction company for the fiscal year 1913. Apportionment on this basis for year ending June 30, 1913, is as follows:

Total	$237,353.80	100 per cent
City company	142,412.28	60 "
Traction company	94,941.52	40 "

MAINTENANCE OF EQUIPMENT.

Due to the inter-use of repair equipment by both companies it will be well to treat this item of expense combined. A history of the last sixteen years shows that this expense varied considerably in total and per car-mile, and has seldom been normal. Especially is this true for the past five or six years. The following table is illustrative. Maintenance of way has been included because of its relation to the degree of maintenance of equipment required.

MAINTENANCE OF WAY AND EQUIPMENT PER CAR-MILE WITH PER CENT INCREASE.

T. M. E. R. & L. Co. and M. L. H. & T. Co.

Years ended Dec. 31.	Maintenance of Way.		Maintenance of Equipment.	
	Cts. per car-mile.	Index base 1897, per cent.	Cts. per car-mile.	Index base 1897, per cent.
1897	1.1617	100.00	1.1019	100.00
1898	1.1573	99.63	0.9087	82.46
1899	1.2118	104.31	0.9629	87.38
1900	0.9384	80.78	0.8624	78.26
1901	0.8109	69.82	0.9072	82.33
1902	0.8504	73.20	0.8495	77.09
1903	0.9230	79.45	0.9099	82.57
1904	1.0471	90.14	1.1466	104.05
1905	0.7824	67.35	1.0428	94.64
1906	0.9313	80.17	1.0680	96.93
1907	1.1083	95.41	1.2651	114.81
1908	0.9395	80.87	1.2829	116.42
1909	0.9351	80.50	1.3472	122.26
1910	[1]1.4823	127.60	1.5089	136.93
1911	[1]1.2303	105.91	1.1371	103.19
1912	1.2709	109.40	1.9022	172.62
1913[2]	1.5269	131.43	2.3568	213.88
1913[3]	.....	.....	2.1455	194.71

[1] Different from figures reported in 11 W. R. C. R. Table 59, p. 198.
[2] January to June 1913.
[3] Year ending June 30.

Granting that maintenance costs have increased recently due to rises in the prices for labor and materials and that larger cars, air brakes, folding doors, signal and sign systems, and new heating system have been added, it does not seem reasonable that the maintenance cost per unit can under normal conditions show such variations. The cost per car-mile has varied from 0.8495 cts. per car-mile in 1902 to 2.3568 cts. in the first six months of 1913. In 1910 it was 1.5089 cts.; 1911, 1.1371 cts.;

1912, 1.9022 cts. The reasons for these increases are not entirely clear. The high unit for 1913 is in part caused by a decrease in car mileage over 1912. The expense of 1.5089 cts. in 1910 was thought to be abnormally high in the *Fare Case,* 10 W. R. C. R. 207. This alleged abnormal expense in 1910 was in part attributed to improper charges to operating expenses connected with the changing of city cars to the P. A. Y. E. type. In this connection it is significant that of the larger items making up the maintenance of equipment expense it appears, from a memorandum of the company submitted September 16, 1913, that the largest increase occurs in the items of car body repairs, being about 0.4 cts. per car-mile higher in 1912 and 1913 than in 1910 and 1911. Painting and varnishing has increased only about 0.05 cts. per car-mile in the same years, car truck maintenance per car-mile has actually decreased since 1910. Maintenance of electrical equipment has increased about 0.15 cts. or 0.25 cts. per car-mile in these years, while "Miscellaneous expense" has shown an increase of about 0.2 cts. per car-mile.

In attempting to establish the reasonableness of the large recent increases in the unit maintenance of equipment expenses some comparative figures of other companies are cited by the company as follows:

Company	Year	Maintenance of equipment per car-mile cts.
International Ry. Co. of Buffalo.....	1910	2.55
Metropolitan St. Ry. Co. of New York	1910	3.00
Third Ave. St. Ry. Co. of New York..	1910	2.61
The Brooklyn Heights R. R. Co. Brooklyn	1910	3.03
The Brooklyn Electric R. R. Co.....	1910	2.69
Cleveland Ry. Co., Cleveland.....	1909	2.72
Seattle Electric Co., Seattle.....	1910	2.42

It will be noted that the first five companies are in the state of New York. Their expense accounts are kept in accordance with the New York Public Service Commission classification of accounts which includes under the account maintenance of equipment the following: Repairs to steam power plant and substation equipment and superintendence of the same, and depreciation of equipment. Not any of these items are classified under maintenance of equipment in the classification of the Wisconsin Railroad Commission. The Wisconsin Commission's depreciation allowance in 1910 for rolling stock and equipment

and power plant equipment for the city and traction companies combined amounted to 1.3293 cts. per car-mile. If this expense alone be added to the reported costs of the two companies we would get the following unit costs.

Year.	Maintenance and depreciation of equipment per car-mile.
Year ended Dec. 31, 1910	2.8382
" " " 1911	2.4664
" " " 1912	3.2315
" " June 30, 1913	3.4748
January–June 1913	3.6861

These unit costs for 1912 and 1913 exceed any of the comparative costs cited by the company and contained in the previous table, and for 1910 exceed all but two of those unit costs. It is evident from these facts that due to differences in classification the unit costs cited by the company as obtaining in New York state are of no value for comparative purposes to establish a criterion of equipment maintenance per unit.

In attempting to obtain data for comparative purposes the Commission has gathered the following unit costs from state and municipal reports, financial manuals and technical journals, and by correspondence:

COMPARATIVE UNIT COSTS OF MAINTENANCE OF EQUIPMENT PER CAR-MILE.

Expenses classified, so far as possible, to correspond to the classification of the Wisconsin Railroad Commission.

City.	Population 1910.	Company.	Source of data.	1910.	1911.	1912.
Boston	670,585	Bay State St. Ry. Co	Letter (1) (4)	1.96	1.92	2.15
Buffalo	423,715	International Ry. Co	N. Y. Pub. Ser. Com. Rpts. (1)	1.47	1.58	
Rochester	218,149	New York State Rys	" " " " " (1)	1.54	1.05	
Rochester	218,149	" " " "	McGraw's Manual	1.36	1.53	2.00
New York City	4,766,883	Metropolitan St. Ry. Co	N. Y. Pub. Ser. Com. Rpts. (1)	2.34	2.26	
" " "		Third Ave. St. Ry Co	" " " " " (1)	2.00	1.94	
Brooklyn		Brooklyn Heights R. R. Co	" " " " " (1)	2.40	2.41	
Providence	224,326	The Rhode Island Co	R. I. R. R. Com. Rpt. and letter (3)	1.68	1.73	
Pittburgh	533,905	Pittsburg Railways Co	Letter (1) (4)	1.97	2.15	2.00
Philadelphia	1,549,008	Philadelphia Rapid Transit Co	McGraw's Manual	1.44		
Baltimore	558,485	United Rys. & Elec. Co. of Baltimore	Pub. Ser. Com. of Md. Rpts	1.50	1.63	1.33
"	558,485	" " " " "	McGraw's Manual	1.40	1.48	1.49
Louisville	223,928	The Louisville Ry. Co	Letter (1) (4)			(3) 1.10
Detroit	465,766	Detroit United Ry	Mich. R. R. Com. Rpt.	1.81		
"	465,766	" "	Letter (2)	1.89	2.03	
Chicago	2,185,283	Chi. Rys. Co., City Ry. Co., Calumet & Chicago Ry. Co., So. St. Ry. Co				2.16
Chicago	2,185,293	Chicago Rys. Co	Rpts. Board Sup. Eng. (1)	1.22	1.30	
Minneapolis	301,408	Twin City Rapid Trans. Co	Elect. Ry. Jo. V. 41, p. 775		1.52	1.15
St. Paul	214,744		McGraw's Manual and Letter	1.54	1.50	1.36
San Francisco	416,912	United Railroads of San Francisco	" " " "	2.99	2.43	2.09
Portland	207,214	Portland Ry. Lt. & Pr. Co	Oregon R. R. Com. Rpts.	1.79	1.72	
Seattle	237,194	Puget Sound Tr. Lt. & Pr. Co	Letter (4) (3)	1.76	1.40	1.27
Berlin		Grosse Berliner Strassenbahn	Elect. Ry. Jo. V. 42, p. 398		1.24	1.35
Milwaukee	373,857	T. M. E. R. & L. Co. Co. & M. L. H. & T. Co.	Financial reports	1.51	1.14	1.90

(1) Adjustments made partially at least correcting differences in classification.

(2) Accounts kept in accordance with interstate commerce commission classification. No knowledge concerning inclusion of depreciation expenditurs.

(3) "Repairs of rolling stock" or "maint. of rolling stock."

(4) Depreciation reported to be not included.

The unit costs in the above table have been based upon rolling stock and shop maintenance as far as possible, but some of the units (as per foot notes) still include other expenses than those provided for in maintenance of equipment by the Wisconsin classification. The higher units in the table are due either to this fact or to abnormal maintenance, or to the fact that they prevail in cities with more than a million population such as New York and Brooklyn. Comparing the above figures with those of a few similar railways cited by the Milwaukee company, we note that for one city in the Red Book 1910, the unit is given as 2.42 cts., while by letter to the Commission the comparable unit is 1.76 cts. for 1910, 1.40 cts. for 1911, and 1.27 cts. for 1912. Taking the Buffalo figures, the Milwaukee company cited 2.55 cts. for 1910, while the New York state commission reports show the more comparable costs to be 1.47 cts. for 1910, and 1.58 cts. for 1911. For the Brooklyn Heights Company a similar revision results in costs of 2.4 cts. in 1910, and 2.41 cts. in 1911, as against 3.03 cts. cited by the Milwaukee company.

Taking the unit costs of both companies combined by months for the year 1913 we have the following figures:

MAINTENANCE OF EQUIPMENT, RAILWAY.

Jan.-Sept. 1913.

	T.M.E.R.& L. Co. & M. L.H. & T. Co.			T.M.E.R. & L. Co.		
	Maintenance of equipment.	Car-miles.	Maintenance of equipment per car-mile.	Maintenance of equipment.	Car-miles.	Maintenance of equipment per car-mile.
			cts.			cts
January	$27,724 31	1,483,043	1.87	$21,574 37	1,242,521	1.74
February	43,110 05	1,326,459	3.25	35,052 71	1,108,401	3.16
March	39,799 24	1,455,880	2.73	31,131 25	1,215,530	2.56
April	39,471 92	1,422,477	2.77	31,748 53	1,186,759	2.68
May	27,096 90	1,487,920	1.82	21,261 76	1,231,967	1.73
June	27,701 55	1,518,314	1.82	20,706 12	1,214,615	1.70
July	23,931 30	1,596,564	1.50	18,054 20	1,272,546	1.42
August	22,646 52	1,599,344	1.42	17,599 68	1,275,993	1.38
September	30,438 82	1,510,494	2.01	25,751 81	1,225,391	2.10
Total	$281,920 61	13,400,495	2.10	$222,880 43	10,973,723	2.03
Arithmetic average			2.13			2.05

Although the average for the nine months of 1913 given in the foregoing table is over 2.1 cts. per car-mile for both companies combined and slightly above 2 cts. for the city company

on a direct charge basis, it is quite apparent that these high averages have been caused directly by the extremely abnormal figures prevailing in February, March and April of 3.25 cts., 2.73 cts., and 2.77 cts. for the combined properties, respectively, and 3.16 cts., 2.56 cts., and 2.68 cts. for the city company property, respectively. It was shown in the preceding history since 1897 of the car-mile costs for the Milwaukee companies that the average for the first six months of 1913 was even higher than for any preceding period, namely 2.3568 cts. and this is of course directly due to the abnormal costs cited above. In the table just given it is noticeable that the cost of 1.5 cts. or lower occurs during July and August, and that 1.8 cts. is quite common. In this connection it is important to call attention to the prevalence of costs less than 1.8 cts. in the comparative data obtained from other cities and it also should be noticed that costs above 2.4 occur only in five instances and that no costs reach 3 cts., even in cities of over one million population.

In order to obtain an average of maintenance cost which will be a criterion for a normal cost, an average of the past three years, 1910, 1911 and 1912, and an average of these three years combined with the nine months of 1913 are taken as an equitable basis. The arithmetical average for the three-year period is 1.5161 cts. per car-mile, while the average for the three years and nine months is 1.6695 cts. This latter average gives the figures for the nine months during 1913 the same relative weight as that given to the figures for the previous years. In this connection it should be noted that an average based upon these later years is liberal. Prior to 1911, no additional cars were placed in operation by the company for five years, which no doubt caused a more intense use of the equipment on hand, as the total passenger traffic increased over 30 per cent during this period. This, together with a growing demand for better shop facilities, resulted in a gradual cessation in regularity and thoroughness of overhauling.

The company has placed its final estimate of the minimum cost of maintenance of equipment at 2.006 cts. per car-mile. This, it will be noted, is higher than the actual cost incurred in 1912. Now, considering the low maintenance costs in 1911 and in the years preceding 1910, it is certain that the higher costs are due to deferred maintenance and probably also due

to liberal interpretation of what constitutes maintenance charges. The former statement is partly substantiated by the company in its report by stating that 11 cars were overhauled in 1911 while 318 cars were overhauled in 1912. Although the company intends to overhaul its cars regularly in the future, it is evident that when the deferred maintenance has been provided for the cost per car and per car-mile will be decreased, because of the fact that regular maintenance is always less expensive than deferred maintenance. In view of the history of the company's maintenance by years, and also by months for 1913, the revised comparative data, the averages stated, and other facts, a unit cost of 1.8 cts. per car-mile is the maximum amount that can be fairly allowed for such maintenance under normal conditions. On this basis $262,102.64 for 1912, and $261,755.73 for 1913, are attributed to the city company as compared with the company's charge of $287,667.29 and $311,273.54 for the same years, respectively. The differences between the company's charge and the Commission's charge are due in part to the revision in the cost per car-mile, and in part to a revision in apportionment made to correct an error made by the company in separating ten months of 1912 and six months of 1913 upon a car-hour basis between the city and traction properties.

INJURIES AND DAMAGES

An unusual increase has occurred in injuries and damages reserve charges within the last few years. The apportioned debits show that the actual outlays increased from approximately $93,000 in 1908, to $257,000 in 1912. The company has increased its credit to the reserve by raising its allowance for injuries and damages from 4 per cent of gross earnings in 1911, to 4.5 per cent in 1912, and to 5 per cent in 1913. These allowances equaled about $186,000 for 1912, and $198,000 for the fiscal year ending June 30, 1913, thus falling short of the actual total expense of releases during these years. However, when allowing for miscellaneous credits allocated to the city company, the credits exceed the charges during the past five years by $29,759.24 upon the company's basis. In the *Fare Case* the allowance was based upon 3.5 per cent of gross earnings for the four years 1908–1911, and the charges on this basis exceeded the credits by $63,725.26 after segregating miscellaneous credits and allow-

ing 4 per cent for 1912. These facts indicate that the allowance for this expense should be increased to a certain extent over that in the *Fare Case,* and it is deemed that 4.5 per cent for 1912, and 5 per cent for the first six months of 1913 would be adequate. These percentages of gross earnings conform with the company's allowances and therefore this item is accepted as per company's statement.

Other Reserves and Special Accounts

Under "Other reserves" are included the miscellaneous reserves kept by the company in addition to the depreciation and injuries and damages reserves such as the insurance, law expense, promotion of business, contingency, utility equipment, relief and pension reserves. Some of these reserves are directly chargeable to the railway property while others, again, are common to railway and lighting. An examination of the credits and debits to these reserves during 1912 and their balances at the end of that year place a fair allowance at $70,000 for the city company. This figures seems liberal when it is considered that the allowance in the *Fare Case* ranged from $26,000 to $40,000, and that $25,849.83 was allowed in 1911. However, as the special accounts are in the nature of reserves, it is thought best to facilitate matters by making the adjustments due to these accounts from the allowance for other reserves. The profits in these special accounts amounted to $1,961.47 and the fixed charges to $48,250.61, making a total of $60,212.08. During the six months for 1913 the total equaled $34,582.27. Inasmuch as no disposition has been made by the company of the profits and as the fixed charges must be considered as duplications in this proceeding, an adjustment is advisable. It is thought best to make the deduction here for the excess charges to "Special accounts." A detailed apportionment of these excesses places the duplication in the city railway expenses at $38,352.54 and the net allowance for 1912 for other reserves after deducting the duplications would be about $35,000. No reserve analysis has been made for the fiscal year 1913, but conditions for this year do not differ materially from those of 1912 and the same allowance for these reserves would seem reasonable as the special accounts duplication for the city railway equals $27,390.06 for the first six months of 1913.

TAXES

Taxes paid by the city company in total were $270,548.39 in 1911, and $296,572.99 in 1912. Taxes payable the coming December amount to $325,392.02. An apportionment to obtain the amount of taxes applicable to the income account of the fiscal year ending June 30, 1913, shows $310,987.50 to be a fair allowance upon the basis of one-half of each of the calendar-year taxes for 1912 and 1913. A further segregation is necessary between railway and lighting. A weighted percentage of net earnings for 1912 and the first six months of 1913, gives 68.82 per cent as the railway proportion. In view of the fact, however, that the percentages for gross earnings and physical value are somewhat higher than this percentage, it is considered equitable to allot 70 per cent to railway. Upon this basis the taxes for the calendar year 1912 will amount to $207,601.09 and for the fiscal year ending June 30, 1913, $227,774.41.

DEPRECIATION

In the *Fare Case* the allowances for depreciation were placed upon a straight line basis and after the deductions for special accounts were made the following net totals were included as operating expenses:

	Depreciation straight line.	Special account deduction.	Total net depreciation.
1908	$400,682	$21,600 36	$379,082
1909	408,533	30,815 98	377,717
1910	439,810	30,912 00	408,898
1911	465,479	30,912 02	434,567

It does not seem fair to allow a continuously operating property an expense for financing depreciation on a straight line basis. A company as large as the one in question with a number of joint utilities and subsidiary properties under its control and with numerous opportunities for commercial investment can readily invest any offsetting assets of the depreciation reserve liability at an average of 4 per cent return or better. Furthermore, it would be questioning the capability of the company's administration to assume that it allowed money to remain idle

within its business. In fact in the *Fare Case,* 10 W. R. C. R. 1, 159, the statement is made that the reserve liability is partly offset by securities and partly by property. Under such conditions the straight line basis does not seem justifiable.

The straight line basis in the *Fare Case,* page 239, was justified on the grounds that no inclusion had been made of the 12 per cent overhead. Now it seems that about half or more of the overhead is permanent, does not depreciate, and, therefore, will not be required in reconstruction. For instance, it is held that only in total supersession do all overhead charges depreciate and that a normal depreciation allowance should not be based upon such an assumption. It is held that certain charges for engineering and supervision do not depreciate and that the cost of contingencies and losses during construction do not necessarily have to be replaced in their entirety. Also, that interest during construction is in the same category, while preliminary organization, promotion development, administration and legal expenses do not usually have to be repeated in replacement.

With these facts in mind, the 4 per cent basis for financing depreciation with about one-half of the overhead included as depreciable property seems to be the fairest to the public and the company. Upon this basis the per cent of depreciation is 4.32 per cent on the wearing value plus one-half the overhead costs. The fund for financing for 1912 and 1913 at the beginning of the year plus one-half the addition is $444,554 for 1912 and $473,389 for 1913.

VALUATION AND RATE OF RETURN.

In the absence of an appraisal it is necessary to obtain a present value for January 1, 1912, by building upon the basis of the appraisal as of date Jan. 1, 1910. Upon this date the unadjusted cost of reproduction of the property used and useful for railway purposes was $9,802,807 and the present value was $7,239,632. In the computations to establish a fair value for January 1, 1912, all adjustments, additions and renewals reported by the company since January 1, 1910, have been included. Adjustments from non-operating property for 1910 were included at 90 per cent condition, as this was relatively new property at that time.

Although the total renewals have been added to the present value each year to credit the property with that amount of upkeep which the company expended during the year to retain operating efficiency, it must be said that the company's accounting policy is to charge certain costs of new construction to the depreciation reserve, thus including them as renewals. The addition of the total charges, therefore, takes care of any new construction which may have been erroneously debited to the depreciation reserve.

Deducting depreciation per annum the final present value as of date January 1, 1912, foots up to $8,991,000. When the tangible value thus established, plus one-half the additions during 1912, is made the basis for the intangible additions allowed the city company in the *Fare Case,* together with the depreciation provided for, the resultant value is approximately $11,600,000. Assuming the same per cent condition, 73.85 of the cost new, as determined in the appraisal of 1910, the present value on January 1, 1912, amounts to $8,913,000, and, allowing for intangibles and depreciation, the final value of $11,600,000 as given above is substantiated. Similar computations place the present value of January 1, 1913, at $9,948,000, and the final value, allowing for intangibles and depreciation, at $12,000,000.

It has been contended that to assume the same per cent condition for the property on January 1, 1912, as existed at the time of the 1910 appraisal would be misrepresentative of the conditions. However, this does not seem to be true when certain factors are considered which, when analyzed, tend to establish the percentage at about the same figure. In the first place it must remembered that the present value of 1910 has gone through two full years of depreciation up to January 1, 1912, and through three years up to the first of the same month for 1913. This decreases the old present value to a little over an average of 59 per cent condition on January 1, 1913,—much lower than the one established in 1910. Although the new additions coming in during the succeeding three years at a 100 per cent condition would obviously raise the condition in the aggregate, the weight of depreciation of the old property at over nine million dollars, the figures show, would tend to more than offset the weight of the new additions at three million dollars during the last three years. This is quite clearly substantiated by com-

putations which show that the present value on a cumulative basis is about equal to the present value obtained on the basis of 73.85 per cent condition. It must also be borne in mind that the additions during 1910, for instance, have up to January 1, 1913, depreciated on an average of two and one-half years and are therefore below a 100 per cent condition.

Again, the renewals which the company has made during this three-year period have not been very extensive and consequently have not increased the per cent condition materially. And finally, it may be said that the placing of the present value upon a 4 per cent fund basis in 1910 instead of a straight line basis gives the company the benefit of a high final value.

In view of the facts outlined above it is quite certain that the per cent condition of 73.85 is not very far out of the way.

Another matter which requires explanation is the omission in the preceding computations of the adjustment made in the *Fare Case*, 10 W. R. C. R. 97 (Table 17) and 239, of $756,244.55 of new equipment erroneously charged to depreciation reserve. The depreciation reserve credit balance was adjusted by this amount in the *Fare Case* and increased from $1,082,909.04 for January 1, 1910, to $1,839,153.59. This adjusted reserve was added to the present value in order to obtain a fair value for rate-making purposes. As this equipment was included in the engineer's appraisal of 1910, the adding of the adjustment to the present value duplicated this equipment in the final value and therefore should properly be excluded in these computations as the resulting accounting adjustments in the *Fare Case* to the depreciation reserve and the book value were mere corrective entries and had no bearing upon the plant value for rate-making purposes.

As stated previously, the 4 per cent sinking fund present value has given the company the benefit of a high figure. It seems that it would be fair to show what the present value would be upon a straight line basis. Computations show that the present value with straight line depreciation is approximately $8,443,924, date January 1, 1912, as against $8,991,471 on a 4 per cent basis. Taking the intangibles and the depreciation provided for as a proper inclusion in arriving at a final value, we have $11,048,000 as compared with $11,600,000 on a 4 per cent sinking fund basis. For 1913 the present value upon a straight

line basis totals $9,341,000 and the fair value $11,402,000, while the fair value on a 4 per cent basis could not exceed about $12,000,000 when working capital as well as going value are included in the valuation.

A rate of return of 7.5 per cent for interest and profit on such a valuation of the property as that allowed in the *Fare Case* and under such other conditions as obtained in that case is ordinarily sufficient to bring the necessary capital into the service, except, perhaps, in cases where the public service companies are grossly overcapitalized. This statement is based upon careful inquiries into such matters covering many years and all kinds of conditions. There are, of course, times, mostly of comparatively short duration, when the state of the money market is such that few securities can be marketed no matter how sound they may be. Such conditions, however, are, as a rule, abnormal and cannot fairly be made the ground or basis for what constitutes necessary and fair returns. It is also obvious that fairness demands that overcapitalization be eliminated for the most part in most cases from those factors upon which reasonable returns are based. Any other rule would not only be inequitable as against the public but would make effective regulation of any kind impossible. The elements which enter into the fair rate of returns are now quite well understood and information on the subject is easily accessible to those who desire to obtain light on it. For these and other reasons the issues involved in this question ought not to be open to much of anything in the way of doubt or uncertainty.

WAGE ALLOWANCE

In the *Fare Case*, 10 W. R. C. R., 1, 246, the following statement was made in regard to wages:

"In the disposal of this total surplus, the claim that trainmen's wages are inadequate demands first attention. The petition presented upon behalf of these employes has been carefully examined and our conclusions are based upon the recommendations of the industrial commission, that present wages are somewhat below the standard and that a readjustment of time schedule is desirable. It is not necessary to refer in detail to the extended report of the industrial commission. The net amount

of the changes recommended will aggregate about 4 cts. per car-hour, platform time, and would have amounted to $62,443.76 for the city company in 1911.

"Since July 1, 1912, respondent company has made partial compliance with these recommendations and the increase in wages upon its readjusted basis will not exceed $35,000 during the first year. Company has in partial operation extended plans involving the employes welfare, comprising various coöperative and profit-sharing features, the extended expenditure for which it is difficult to estimate at this time."

Over one-half of the allowance made in this instance is reflected in the 1912 income account as the new schedule was effective June 1, 1912. This entire amount has been included under "Conducting transportation" for the fiscal year ended June 30, 1913. The company has, however, made another increase in the trainmen's wages which became effective during the summer of 1913. The increase amounted to one cent per hour for all trainmen and approximately the same amount for car house repairmen. As the change is comparatively small, involving no abnormal increase in operating expenses in the immediate future, it probably would not be necessary that any allowance be made in the expenses for the immediate future. However, it is considered advisable to make an allowance for this increase as it will in a measure be reflected in the income accounts of the next few years. About $35,000 seems adequate to cover the increases thus occasioned in the wages of all trainmen and of car house repairmen.

PAVING ALLOWANCE

Since the decision in the *Fare Case*, 10 W. R. C. R. 1, the state supreme court has affirmed the decision of the circuit court requiring the company to pave within its track zone in the city of Milwaukee upon all streets which the city has paved permanently. An allowance in 10 W. R. C. R. 246, for *interest* and *depreciation* on the paving obligations thus imposed upon the company of $150,000 to $200,000 was given. These figures, it was stated, were based upon a carefully prepared report of the engineer. But an examination of this report which was submitted August 13, 1912, shows that the *construction* costs as well

as the interest and depreciation were included in the allowance of $150,000 to $200,000, per annum. The propriety of including construction costs as a deduction from income seems questionable. In matters before this Commission concerning rate values or purchase values it is the policy to allow paving actually constructed. It would seem more equitable in this case to consider these construction costs as capital expenditures. In fact, the company, in making adjustments regarding new paving erroneously charged to depreciation reserve, has adopted the policy of charging these costs to capital account. Upon this basis the allowance for paving can not be charged to both the income and the capital account. Furthermore, in charging the construction cost to expenses, as was done in the *Fare Case*, the depreciation and interest charges must obviously be eliminated. Taking the attitude of the Commission on paving values and the company's accounting policy as a basis, it is deemed that construction costs of paving logically belong in the capital account.

In the estimates of the engineer for the Commission the future costs of paving were extended to the year 1924, while in a later estimate submitted on June 11, 1913, by the company the costs were extended to 1921. It does not seem necessary to provide for these costs in the distant future as conditions at that time may have changed considerably, and to provide for the paving work which may reasonably be expected within the near future, say, four or five years, no doubt is all that can be reasonably expected here. The estimates of the Commission's engineer place the construction of paving during 1913 in the neighborhood of $200,000, during 1914 at about $125,000, and the annual construction thereafter at an average of from $60,000 to $70,000. The later estimate of the company includes paving for both urban and suburban track zones. Construction for 1912 is placed at $20,100. For 1913 the estimate is over $539,000 for both city and suburban track and approximately $100,000 per annum thereafter. The actual paving constructed for The Milwaukee Electric Railway and Light Company during the fiscal year ending about April 1913, is reported by the company to slightly exceed $156,000. Thus the actual paving has fallen considerably below the estimate of the company for the year

1913, which was about $270,000 for city work, and also below the estimate of the Commission's engineer for 1913.

In arriving at a rate for depreciation the Commission's engineer establishes the average life of granite paving at twenty-one years, brick twelve years, asphalt twelve years, and creosote block in excess of twelve years. Experience tables of Milwaukee paving laid as early in some instances as 1894 and 1895 were used to establish the life of asphalt and brick pavement and the other lives were established after a complete study. The final average of paving under Milwaukee conditions was placed at twelve and one-half years where track renewals were the determining feature while a life of twenty-one years was placed upon granite block. Comparing the rates based upon these lives with those given by the company in its estimate, 10 per cent for stone block and 20 per cent for asphalt, it seems that the former are more acceptable. The allowance for returns by the company was placed at 8 per cent instead of the 7½ per cent used by the Commission.

Using the estimates on depreciation and returns per annum the report of the engineer of the Commission shows that these costs in total average about $46,000 annually on a cumulative basis up to the year 1918. The depreciation and returns upon the amount of paving as actually constructed during the fiscal year ending April 1913 will amount to $24,960. Considering that the costs for each additional year will be cumulative—the degree of accumulation depending upon the amount of paving—and that the later years will most likely show a decrease in construction costs, it is deemed that an allowance of $50,000 per annum for the next four or five years is liberal to meet the average annual expense for returns, depreciation and taxes. The maintenance cost, it is believed, should properly be included in the normal increase in expenses and therefore be taken care of by the normal increase in business. In the following table the total maintenance expense for all paving for each company and in total since 1908 are exhibited. The entire maintenance expense of The Milwaukee Electric Railway and Light Company has averaged about $17,000 per annum for all paving during this period.

MAINTENANCE OF PAVING.

1908–1913.

The Milwaukee Electric Railway & Light Company and Milwaukee Light, Heat & Traction Company.

	T. M. E. R. & L. Co.	M. L. H. & T. Co.	Total.
1908 (a)	$3,499 42	$627 65	$4,127 07
(b)	14,991 55	2,701 54	17,693 09
Total	$18,490 97	$3,329 19	$21,820 16
1909 (a)	$5,454 94	$1,003 40	$6,458 34
(b)	12,617 35	2,289 59	14,906 94
Total	$18,072 29	$3,292 99	$21,365 28
1910 (a)	$7,037 51	$1,245 62	$8,283 13
(b)	12,613 51	2,121 63	$14,735 14
Total	$19,651 02	$3,367 25	$23,018 27
1911 (a)	$5,911 57	$1,033 25	$6,944 82
(b)	9,527 81	1,640 50	11,168 31
Total	$15,439 38	$2,673 75	$18,113 13
1912 (a)	$6,883 50	$1,074 21	$7,957 71
(b)	9,758 51	1,550 32	11,308 83
Total	$16,642 01	$2,624 53	$19,266 54
1913 (a)[1]	$8,656 22	$1,666 33	$10,322 55
(b)	10,676 79	1,746 30	12,423 09
Total	$19,333 01	$3,412 63	$22,745 64

[1] Year ending June 30.
(a) Wages given for each year.
(b) Materials given for each year.

ALLOWANCE FOR REDUCTION CAUSED BY THE SALE OF 13 TICKETS FOR 50 CENTS

In the *Fare Case* the allowance for the reduction caused by the ordering of thirteen tickets for 50 cts. was placed at $171,734. Actual reductions which have taken place during the fiscal year ending September, 1913, amount to about $87,000, according to the reserve which the company has established to cover the tickets unredeemed or outstanding. In view of this fact and the fact that the proposed rate is indefinitely postponed by an injunction and now pending the decision of the United States supreme court, an allowance for the actual reduction as stated above appears to be sufficient for the purposes of the income accounts in this proceeding. If within the near future the actual reductions per annum should exceed this allowance, the

provisions for such a difference may be found in the present margin after making all deductions. Accordingly, the allowance for 1912 is based upon an approximate three months reduction, while for 1913, a nine months' allowance is included.

SINGLE FARE EXTENSION ALLOWANCE

In the *Fare Case,* 10 W. R. C. R. 246, the following statement was made in regard to the reduction in revenues due to single fare extensions:

"The claim of suburban passengers to a single fare privilege, all of which are passed upon in the separate cases decided upon this date, will necessitate an extension of the present single fare limits to approximately five miles from the Grand avenue bridge. The losses in revenues sustained by reason of such an extension during 1911 would aggregate $131,883, and this amount will be relatively increased rather than diminished in the future, owing to the increased proportion of long haul or least profitable passengers stimulated by such an extension of single fare limits."

Actual experience since the decision in the *Fare Case* shows that this allowance is too high by about $77,000.

In order to get a criterion of the decrease in revenues due to the single fare extensions the following table is submitted showing the suburban passenger earnings for the first six months of 1913, as these months show the decreased earnings for that period:

SUBURBAN EARNINGS FOR SIX MONTHS 1913, JANUARY—JUNE.
AFFECTED BY SINGLE FARE EXTENSIONS.
MILWAUKEE LIGHT, HEAT AND TRACTION COMPANY.

1913.	Wauwatosa—Walnut	Wauwatosa—Wells.	Suburban only.		West Allis—Fond du Lac.	West Allis—Burnham.	Suburban portion of I. U.		
			North Co'lege Ave.	West Allis—Wells.			Burnham.	Fond-du Lac.	Total.
Jan.....	$888 51	$2.134 63	.....	.....	$568 91	$324 31	$918 74	$1,448 90	$6,284 00
Feb.....	771 89	1,935 10	.....	.....	481 05	295 09	739 10	1,371 73	5,593 96
March.....	856 43	2,349 56	.....	.....	553 58	346 58	819 94	1,521 11	6,447 20
April.....	982 97	2,435 70	.....	.....	560 15	359 19	922 28	1,539 02	6,799 31
May.....	1,133 53	2,656 14	.....	.....	664 03	442 44	1,333 91	1,920 17	8,150 22
June.....	1,069 96	2,521 82	.....	.....	1,296 07	428 00	1,864 71	2,339 97	9,520 53
Total...	$5,703 29	$14,032 95	.....	.....	$4,123 79	$2,195 61	$6,598 68	$10,140 90	$42,795 22

This table shows that the total earnings during the first six months amounted to $42,795.22. Taking these earnings and doubling them so as to obtain the approximate earnings for 1913, or a full year, and comparing the result with the earnings on these lines for 1910 and 1911, we have the table below:

SUBURBAN PASSENGER EARNINGS ON WAUWATOSA AND WEST ALLIS LINES.
MILWAUKEE LIGHT, HEAT & TRACTION COMPANY.
Suburban only.

	WAUWATOSA.		WEST ALLIS.				SUBURBAN PORTION I.U.		Total.
	Walnut.	Wells.	Burnham.	Wells.	Fond du Lac-National	College Ave.	Burnham.	Fond du Lac.	
1910.....	$14,560 29	$30,886 31	$4,611 98	$20,114 26	$25,879 35	$102 21	$19,702 72	[1]26,226 98	$142,084 10
1911.....	15,089 49	27,300 01	4,640 75	20,032 32	24,100 84	309 92	19,909 17	[2]23,843 16	135,225 66
1912.....	12,956 77	29,225 65	4,946 66	14,804 84	17,654 38	392 85	16,270 63	23,263 60	119,515 38
Six mos. of 1913.	5,703 29	14,032 95	2,195 61	.....	4,123 79	.....	6,598 68	10,140 90	42,795 22
Six mos. of 1913 doub'd	11,406 58	28,065 90	4,391 22	.....	8,247 58	.....	13,197 36	20,281 80	85,590 44

[1] Route in 1910 over Hawley road—West Allis.
[2] Hawley road—West Allis route $3,545.16, and 53d ave.—West Allis route $20,298.00.

As the year 1912 in the table just shown has been affected by a reduction in the revenues due to extensions for about four months, an average of 1910 and 1911 will serve as a better basis. Deducting the earnings of the first six months of 1913, doubled, from the arithmetical average of 1910 and 1911, we have a computed reduction of somewhat more than $53,000. Taking the reduction of 1912 over this average as an indication of a four months reduction, we have a total reduction on this basis of $57,000. It is fair to assume from these data that the reduction in suburban revenues due to the single fare extensions ordered in connection with the *Fare Case* will not exceed $55,000. Comparing this with the allowance made in the *Fare Case,* $131,883, it is apparent that the latter figure is too high by $77,000, as stated above.

But now the question arises as to the validity of making deductions arising out of single fare extensions from any excess which may exist in the income account of the city company. These reduced revenues affect the suburban earnings which belong to the Milwaukee Light, Heat and Traction Company's

income account, and have only a slight bearing upon the city company's income account. These extensions affect the city expenses in that the car haul and passenger haul is increased upon the lines in question, but no deductions occur in the city earnings from these extensions, in fact, the tendency would be, and most likely is, to increase the latter earnings slightly. The result is that the deduction from the city income account surplus in the *Fare Case* might well be corrected. That no deduction should have been made for these extensions from the city surplus is corroborated by the company by including a rental of $52,000.02 in its expense account under "Undistributed" for the fiscal year 1913, to cover the use of the Milwaukee Light, Heat and Traction Company's tracks in the single fare area by city cars.

At this time the rental given above is accepted tentatively and no adjustments will be made in the expense burden for this reason. A proportionate rental is also included for 1912.

However, at some subsequent time it will be necessary to make a detailed study of the costs of inter-operation and determine whether this rental is a fair figure, especially in view of the fact that the city company is receiving a single fare for every interurban passenger hauled in and out of Milwaukee.

REVISED INCOME ACCOUNTS

Income accounts in which the earnings, operating expenses and valuation of the company have been adjusted in accordance with the preceding analysis show respectable surpluses available for improvements in the services and for other purposes. Such income accounts for the years 1912 and 1913 are given in the following table:

	1912.		[1] 1913.	
Revenues		$4,131,811 34		$4,181,016 84
Total expenses		2,827,012 80		2,983,213 24
Maintenance of way & structures.	$130,454 80		$142,412 28	
Maintenance of equipment	262,102 64		261,755 73	
Power	390,333 87		364,688 99	
Conducting transportation	1,064,844 26		1,094,745 93	
Expense burden	106,190 62		184,973 10	
Injuries & damages	185,931 52		198,473 80	
Other reserves	35,000 00		35,000 00	
Taxes	207,601 09		227,774 41	
Depreciation	444,554 00		473,389 00	
Surplus available for return on investment		$1,304,798 54		$1,197,803 60
Fair value		$11,600,000 00		$12,000,000 00
Return on fair value at 7½ %		870,000 00		900,000 00
Excess above return		$434,798 54		$297,803 60

[1] Year ended June 30, 1913.

A glance at the preceeding income account shows that the surplus above operating expenses, including depreciation and 7½ per cent on the value of the property for interest and profit, amounted to $297,803 for 1913 and $434,798 for 1912. These surpluses have been gradually decreasing from year to year. This is shown by the fact that they amounted to $691,819 in 1911, $559,534 in 1910, $619,897 in 1909, and $477,903 in 1908. The reasons for these decreases in the surplus above the charges in question are many. The operating expenses have increased more rapidly than the earnings, partly because of gradually increasing prices in material and labor, although these increases have been less since 1907 than they were for an equal period preceding that year, and partly because of expenditures for deferred maintenance. The charges for interest and profit during the past few years have also been above normal, due to the fact that the company had reached the point where increases in the business required greater than the ordinary expenditures for new property or extensions. During the three years preceding January 1, 1910, for instance, the city company expended $1,208,630 in new additions for railway purposes, while during the three years following this date it expended $3,173,969, or two and one-half times the former amount. Such periods for every growing utility are reached from time to time. When so reached the interest charges become relatively large for some time; but as business develops, the ratio of these charges to the

earnings as a rule gradually decreases until the next period is reached when the capacity of the plant is again outgrown and further extensions are required. For growing utilities there are thus years when the interest charges are relatively high as well as years when they are relatively low. The present value of the property, as given or used herein, is also about $600,000 greater than it would have been had it been determined on the straight line rather than on the sinking line basis. The straight line basis for this purpose is often supported in logic or reason. For growing utilities where rate adjustments can not, in the very nature of things, be of very frequent occurrence and for which, owing to the law of increasing returns, the net earnings both actually and relatively are gradually increasing, fairness often demands that the returns allowed for the first year or at the time the rates are adjusted should be below rather than above the normal figures. As the Commission in its order in the *Fare Case* allowed something above 7.5 per cent for returns on what may be regarded as a high value of the property used, it is a question whether on facts now before it the Commission was not more liberal toward the company than it should have been. From the facts at hand it also appears that the reductions in the earnings by the said order will be offset by the natural increase in the gross earnings of the company within a little more than one year after the said reduction in the rates in question went into effect. When these facts are considered in connection with the above income accounts and the explanations which relate to the various items therein, it is difficult to see in what respects the Commission went further in the reductions provided in the rates in the *Fare Case* than was its plain duty under the circumstances.

The surpluses above operating expenses and returns on the investment which have thus been pointed out and explained, however, should be reduced by about $35,000 for increases in wages; by about $50,000 for interest and depreciation on the paving which the company must put in under the late decisions of the courts; by about $21,000 in 1913 and about $63,000 in 1912 for reductions in earnings due to the order in the *Fare Case,* which reductions as thus given are based upon the company's experience during the past year and are somewhat lower than the estimates made by the Commission at the time the

Fare Case was decided; and by certain rentals for 1912 arising out of the extension of single fare limits in the *Fare Case*. These reductions from the surplus, when taken together, amount to about $106,000 for 1913 and $161,000 for 1912. When these amounts have thus been deducted from the surplus of $297,803.60 for 1913 and $434,798.54 for 1912, the balances which remain for improvements in the service and other purposes amount to $191,803.60 for 1913 and $273,798.54 for 1912. These surpluses, even if somewhat overstated because of the fact that the experience of the company during the past year may not fully show the effect of the reductions in the rates by the order in the *Fare Case*, are considerably greater than the additional cost of needed improvements in the service. In view of these facts, as well as in view of the other facts mentioned and explained herein, it does not appear to us that the allegations of the company, to the effect that the order of the Commission in the *Fare Case* is unreasonable and unjust, are sustained by the facts.

COST OF ADDITIONAL SERVICE

In a brief submitted by the company the contention was made that the cost of each additional car for peak hour service would be $2,804.50. This figure requires revision, as it is based upon the assumption that each car added will cause a pro rata increase in all operating expenses and investment costs. For instance, it is contended that an increase of $1,000 for housing facilities and $3,200 for power plant capacity will be incurred for each additional car; that the allowance for general expenses per car added would be $226.01, and that all expense of superintendence and supervision would be proportionately increased.

Now it is certain that in a street railway plant as large as the one in question there is a considerable margin between the rendition of a minimum and maximum amount of service with a given plant capacity and a given operating expense budget, and that with a disproportionately small increase in the investment costs and operating expenses the service can be increased to a certain extent for a few hours during each peak hour day. In other words, in this instance the economic law of increasing output per unit capacity holds almost as forcibly in the street

railway business as in the steam railroad business. Upon this premise the Commission has proceeded to determine to what extent the investment costs and operating expenses must necessarily be increased in order to furnish additional service during the peak hours. This has been done with the view of separating those costs varying with an increase in peak hour traffic and those not varying with such traffic.

In regard to investment costs, a memorandum submitted by the engineering staff based upon a field investigation held that new additions to car houses would not be required because of the installation of about a 10 per cent addition to rolling stock. As to power plant capacity, the memorandum contains the following statement:

Power. Concerning the capacity of 600 volt direct current machines serving the city system it appears that the 600 volt capacity of the stations serving the outlying districts is more than sufficient to meet an increased demand of 10 per cent. The question of capacity of 600 volt machines is largely in connection with the stations serving the downtown sections, namely: Commerce street and Oneida street. No doubt the equipment in these stations, when all in normal operating condition, will be sufficient to handle the increased demand by an addition of 10 per cent of the cars operated, but it is considered good practice to have a greater reserve and it appears to us that an allowance of approximately $15,000 should be made for the installation of a 1000 kw. rotary and its accessory apparatus in the Oneida street station. With this addition it is believed that the situation will be handled in a satisfactory manner as far as any increase of cars which the Commission may order on the basis of our service investigation.

The company is at the present time installing one 500 kw. rotary converter at the Oneida street station. This machine has been the property of the company for some time and is not a new purchase. In the event that a 1000 kw. rotary were installed at Oneida street, it will be necessary to remove the 500 kw. machine now being installed but the foundations are designed to fit a 1000 kw. machine or one of 2000 kw. capacity. It will therefore not be necessary to make any allowances for additional buildings to house the additional rotary capacity referred to.

Considering the Kilbourn power as tied in, it appears that the present steam generation and prime mover capacity is sufficient to supply all the rotary converters operating on this system and it does not appear that any additional investment in steam generating equipment is necessary.

With these facts regarding investment costs in view, an outlay of $15,000, exclusive of rolling stock, appears to be the requirement. The brief of the company placed the cost per car at $6,500 and this figure will be accepted for the computations in this study.

In regard to operating expenses, it is considered that the depreciation on buildings, fixtures, poles, feeders, underground and overhead transmission, paving and telephone system, which is primarily due to weather, will not be affected by an increase in traffic, while the depreciation due to wear on track, trolley, cars, generators, and prime movers will be affected. Allowing for depreciation in total on the new equipment in cars and the rotary, the depreciation on all other equipment was accordingly placed at 35 per cent variable and 65 per cent non-variable. These percentages were established by a detailed examination of each group of property contained in the appraisal of January 1, 1910, and subsequent appraisals. The items here were separated as to those affected and those not affected, and the various rates of depreciation applied. For instance, it was found that of the depreciation of total transmission and distribution 25.39 per cent was variable and 74.61 per cent non-variable, and that the percentages for plant equipment were 93.46 and 6.54, respectively.

Regarding other expenses the same policy was pursued. A detailed study was made of the company's classification of accounts and a segregation was made on the basis of the three years, 1910, 1911 and 1912. These studies resulted in placing the percentages for the three years as follows:

	Variable	Non-variable
1910	75.58 per cent	24.42 per cent
1911	79.82 "	20.18 "
1912	79.41 "	20.59 "

The above percentages exclude power and a separate study of this item placed the variable proportion at 90 per cent and the remainder, 10 per cent, non-variable with peak hour service. In arriving at the divisions such expenses as "Superintendence of way, equipment, transportation and traffic," together with "Maintenance of paving," "Removal of snow and ice," "Maintenance of buildings, fixtures and grounds," "Tickets," "Transfers," "Maintenance of overhead and underground transmission

systems,'' ''Miscellaneous and general expenses'' were for obvious reasons, considered non-variable within the limits of this study.

In computing the cost per car per annum for peak hour service in the first instance, 3.77 hours were taken as the average duration of peak service, and this with 250 peak service days and a speed of 8 m. p. h. resulted in 7,540 car-miles per annum per car. After making allowance for the fact that about 10 per cent of the cars would be shopped continually for overhauling, and after revising the total expenses upon a normal basis with proper apportionments between the city and traction companies, the variable costs per car-mile for operating expenses amounted to an average of 13 cts. The total variable expenses per car per annum upon the above basis totals $980. The investment costs, after allowing 5 per cent for depreciation, 1.8 per cent for taxes and 7½ per cent for returns, average $935 per car per annum. The total cost, when allowing for 7,540 car-miles per peak car is a little over $1,900 per car per annum. Assuming an addition of thirty cars for peak service, the total annual outlay would be about $57,000, and upon the addition of fifty cars the total cost would approximate $95,000. Assuming an average of 275 peak days, the annual cost for thirty additional cars would slightly exceed $60,000; and for fifty cars would equal about $100,000. Upon the basis that the additions for service will require about 1,600 car-miles additional per day, the total cost would equal about $99,000 with 250 peak days, and $104,000 with 275 peak days.

With the total costs outlined above it will be seen that the car service requirements which are ordered herein will necessitate the expenditure of but a portion of the excess available for additional service, leaving a considerable margin for other purposes.

ORDER

IT IS THEREFORE ORDERED, That The Milwaukee Electric Railway and Light Company operate its system of street railway lines in the city of Milwaukee in compliance with the standards of service and other regulations specified in the following paragraphs, and provide sufficient power, cars and other equipment and a sufficient number of supervisors, fare collectors and other employes to comply with this order.

1. *Definition of a line.* In the application of the standards of service each line within the limits of the city of Milwaukee shall be treated as an independent unit. All lines except 27th, 35th, North, Center and 12th-Viaduct shall be considered as terminating in the downtown district.

2. *Rush Periods.* In general, three daily rush periods shall be recognized, namely morning, midday and evening. The morning and evening rush periods may be either inbound or outbound, or both, and the midday rush period outbound only; each rush period shall be treated independently.

For the application of standards of service the rush periods shall be designated as follows:

a. For weekdays, including Saturdays, the morning rush period shall be considered to exist for that portion of the day between 6:00 a. m. and 9:00 a. m. when the traffic demand in a given direction is distinctly greater than the demand in the same direction for the two hours from 9:00 a. m. to 11:00 a. m.

b. For weekdays, Monday to Friday inclusive, the midday rush period shall be the thirty minutes of maximum traffic demand for outbound service taken by fifteen minute periods as hereinafter described whenever this demand is distinctly greater than the demand for outbound service from 10:30 a. m. to 11:30 a. m., or from 12:30 p. m. to 1:30 p. m.

c. For Saturdays the midday rush period shall be considered to exist for that portion of the day between 11:30 a. m. and 1:30 p. m. when the traffic demand in a given direction is distinctly greater than the demand in the same direction for the two hours preceding; that is 9:30 a. m. to 11:30 a. m., or for the three hours following, from 1:30 p. m. to 4:30 p. m.

d. For weekdays, including Saturdays, the evening rush period shall be considered to exist for that portion of the day between 4:30 p. m. and 7 p. m. when the traffic demand in a given direction is distinctly greater than the demand in the same direction for the preceding three hours, 1:30 p. m. to 4:30 p. m.

Sundays and all other periods not included in the above specified rush periods shall be considered non-rush periods, except holidays and special occasions when the travel is distinctly greater than normal.

3. *Demand for Service.* The half-hour maximum demand in each rush period shall be used as the basis for the application of the standard of loading for such period, and shall be desig-

nated as that half-hourly period beginning on the hour or any fifteen minutes thereafter during which the greatest number of passengers is carried in a given direction. The standard of loading for all other hours of the day shall be applied by half-hourly periods. The half-hourly periods may consist of any two consecutive fifteen minute periods beginning on the hour or any fifteen minutes thereafter. The demand for service for any given half-hour shall be determined separately for weekdays, Monday to Friday inclusive, Saturdays, and Sundays. The average count of passengers for three consecutive week days, excluding Saturday, shall be considered as the demand for service for week days exclusive of Saturday. The average count of passengers for three consecutive Saturdays shall be considered as the demand for service on Saturdays. The average count of passengers for three consecutive Sundays shall be considered as the demand for service on Sundays. These averages shall be drawn from the actual count of passengers for corresponding fifteen minute periods during the specified days.

4. Standards of Service for Non-Rush Periods. During all non-rush periods a sufficient number of cars shall be operated so that there shall be supplied during any half-hourly period an average of at least 133 seats for each 100 passengers demanding transportation in a given direction at any point on the line, subject to the following exceptions under which all cars are to be operated the full length of the line;

a. Between 6:00 a. m. and 11:00 p. m. cars shall be scheduled to leave the terminals at intervals not to exceed ten minutes, and between 11:00 p. m. and 1:00 a. m. cars shall be scheduled to leave the terminals at intervals not to exceed twenty minutes, unless otherwise specified.

b. The schedule time interval between cars on the 27th street and 35th street, Center street and North avenue lines shall not be greater than ten minutes between 6:00 a. m. and such time after 11:00 p. m. as is necessary to make connections with cars on intersecting lines leaving downtown districts at about 11:00 p. m. and thereafter at not greater than twenty minute intervals, until such time after 1:00 a. m. as is necessary to make connection with cars on intersecting lines scheduled to leave the downtown district at about 1:00 a. m.

c. Between 6:00 a. m. and 1:00 a. m. twenty minutes shall be the maximum scheduled time between cars operated on the

Farwell ave. line between Mineral road and the downtown district.

Subject also to the following exceptions:

d. No service shall be required on the 12th st.-Viaduct line during the non-rush hours.

e. Suburban service within the city limits shall not be subject to the standard stated above unless such cars are operated as an integral part of the city schedules.

5. *Standard of Service for Rush Hours.* During the maximum half-hour of any rush period, there shall be supplied an average of at least 67 seats for every 100 passengers demanding transportation in a given direction at any point on the line.

For other half-hours of the same rush period the same actual number of seats shall be supplied as in the maximum half-hour, except that not more than an average of 133 seats shall be required per 100 passengers demanding transportation in any half-hour.

The application of the maximum half-hour standard shall be limited so that the number of seats supplied per half-hour in the morning rush period shall not be less than the number of seats required under the non-rush standard in the same direction for either of the two half-hours immediately following the rush period, and that the number of seats supplied per half-hour in the evening rush period shall not be less than the number of seats required under the non-rush standard in the same direction for either of the two half-hours immediately preceding the rush period.

The number of seats supplied during any half-hour of the midday rush shall not be less than the number of seats required under the non-rush standard in the same direction in either of the two half-hours immediately preceding or following the midday rush.

During the rush hours, cars to or from Wauwatosa and North Milwaukee which are operated as an integral part of the city schedules shall be preceded at an interval of not more than two minutes by a local car on the same line between the downtown district and the city limits.

6. *Standard of Service for Holidays and Special Occassions.* For holidays and special occasions at such times as the traffic is distinctly greater than normal, the company shall use all rea-

sonable efforts to supply such service as will meet the standard hereinbefore specified for rush periods.

7. Supervision. During rush hours traffic officers with authority over trainmen shall be stationed at important transfer intersections and such other points as will materially assist in the movement of traffic and the maintenance of schedules.

It shall also be the duty of these officers, as far as practicable, to limit the loads on individual cars to the maximum comfortable carrying capacity of the various cars as shown by the following table:

	Winter	Summer
Open platform and rebuilt cars	70	72
500 type cars	93	93
600 type cars	93	95

A list of these traffic officers and their stations shall be submitted to the Commission for approval.

8. Fare Collectors. Fare collectors shall be stationed at important loading points to admit passengers through the front doors of prepayment cars and otherwise facilitate the movement of cars and assist in the handling of passengers. A list of these collectors and their stations shall be submitted to the Commission for approval.

9. Approval of Car Designs. Plans for all new passenger cars and for the remodeling of all old passenger cars shall be submitted for the approval of the Commission regarding width of passage ways, height of steps, type and location of seats, platform arrangements, and such other details as in the opinion of the Commission are important as affecting the adequacy of service.

10. Dividing Rails on Platforms. The dividing rails on the platforms of the rebuilt cars, and the chains attached to the dividing rails on the rebuilt and 600 type cars, shall be removed.

11. Car Signs. All cars in service shall display separate route and destination signs on the front and a route sign on the side of the car. Any proposed changes in the type and manner of handling of signs shall be submitted to the Commission for approval.

This order supersedes all previous orders relating to street car service in the city of Milwaukee, insofar as such orders conflict therewith.

Sixty days is considered a sufficient time within which to comply with this order.

IN RE APPLICATION OF A. E. MONROE ET AL. FOR PHYSICAL CONNECTION BETWEEN THE CLINTON TELEPHONE COMPANY AND THE BERGEN TELEPHONE COMPANY.

Submitted April 23, 1913. Decided Nov. 26, 1913.

This is a rehearing, on motion of the Commission, of matters involved in an order issued October 19, 1912 (10 W. R. C. R. 598) directing the Clinton Tel. Co. and the Bergen Tel. Co. to establish physical connection between their systems and prescribing a 2 ct. toll charge for completed calls between the two systems. The questions considered are: (1) the effect of the 2 ct. toll upon the business and service of the two companies; (2) the possibility of improving the long distance toll service to points beyond Clinton and Bergen; and (3) the legality of the action of the Bergen Tel. Co. in maintaining direct connection with certain private telephones within the village of Clinton.

The Bergen Tel. Co. is opposed to the exaction of a toll for service between the two systems. The Clinton Tel. Co. favors the retention of the 2 ct. toll ordered by the Commission. It appears that the exaction of this toll has reduced the number of messages transmitted between the two exchanges, largely, it is probable, through the elimination of unnecessary conversation.

Held: The effect of the 2 ct. toll is in the interests of good service and there are no valid reasons for abandoning the charge. The terms of the former order with respect to the 2 ct. toll and the division of the revenue accruing from it will therefore remain unchanged.

The Clinton Tel. Co. has refused to receive or transmit long distance messages from or to the Bergen Tel. Co. over the iron line connecting the Clinton and Bergen exchanges. The Clinton Tel. Co. has also refused to receive long distance messages from Bergen over the copper line owned by the Bergen Tel. Co. and connecting with the Clinton to Janesville line of the Badger Teleg. and Tel. Co. As a result the Bergen Tel. Co. is compelled to route its long distance business for Clinton by way of Sharon, which considerably increases the expense and thereby, the Bergen Tel. Co. contends, destroys that company's long distance business with Clinton. The Bergen Tel. Co. therefore asks for authority to use either the iron line or the copper line, as may be most convenient, for the transmission of long distance messages between Bergen and Clinton. The Clinton Tel. Co. objects to the use of the iron line for long distance business and suggests that a Waterloo jack be installed at the Clinton exchange to connect the Bergen Tel. Co's copper line with the Clinton to Janesville line of the Badger Teleg. and Tel. Co. and that the copper line be used for long distance messages between Bergen and Clinton.

Held: The interests of good service at a reasonable rate demand a change in the methods of handling long distance business at the Bergen and Clinton exchanges. Under ordinary conditions

the installation of a Waterloo jack at Clinton would improve the service, but in view of the strained relations which have existed between the Clinton and Bergen companies the Commission does not deem it best to order a change at this time from the direct connection between the copper line of the Bergen Tel. Co. and the Clinton to Janesville line of the Badger Teleg. and Tel. Co. If, however, the Clinton and Bergen companies can come to a reasonable agreement as between themselves and the Badger company for the installation of the Waterloo jack or any other construction which will improve the service, the Commission will welcome the adoption of such an agreement. It is therefore ordered: that the Clinton Tel. Co. and the Bergen Tel. Co. route all long distance messages passing between the two systems directly from Clinton to Bergen or from Bergen to Clinton, as the case may be; that the iron line extending from Bergen to Clinton and owned jointly by the two telephone companies be available for long distance calls between the two exchanges as well as for local business and that the two companies be prepared to render long distance service over this line at a toll charge of 5 cts. in addition to all other toll charges, for all completed calls between the two systems, the revenue so accruing to be divided equally between the two companies. All calls passing over the line which do not originate in the exchange of one company and terminate in the exchange of the other company are to be considered as long distance calls.

The Bergen Tel. Co. has maintained direct connection with three private telephones installed within the village of Clinton.

Held: The practice in question is clearly illegal, as has been held by the attorney-general, and must be discontinued. No order of the Commission, however, is necessary in the matter.

REHEARING.

The Commission issued an order October 19, 1912 (10 W. R. C. R. 598), directing that the Clinton Telephone Company and the Bergen Telephone Company, whose exchanges are located in Rock county, at Clinton and Bergen, respectively, establish physical connection between their systems; that a toll charge of 2 cts. per call be made for all completed calls from one system to the other, the company on whose lines the call originates to collect the revenue from such charges; and that all such toll revenue be divided equally between the two utilities.

Upon motion of the Commission a rehearing was held at Madison, April 23, 1913. *F. W. McKinney* appeared for the Clinton Telephone Company and *H. S. Anderson* for the Bergen Telephone Company.

The essential portions of the testimony relate to three principal questions: (1) the effect of the 2 ct. toll upon the business and service of the two companies, to determine which was the primary purpose of the rehearing; (2) the possibility of

improving the long distance toll service to points beyond Clinton and Bergen; and (3) the legality of the action of the Bergen Telephone Company in maintaining direct connection with with certain private telephones within the village of Clinton.

THE TWO CENT TOLL.

The representatives of the two utilities were divided in their attitude with respect to the 2 ct. toll. The representative of the Clinton Telephone Company stated that his company desired to have the toll continued. The exaction of the charge, he said, helped to eliminate unnecessary conversation over the the line between Clinton and Bergen and the revenue from the charge was sufficient to cover the expense of collecting it and dividing it between the two companies. Witness had discussed the matter with business men in Clinton and had found that they preferred to have the 2 ct. toll retained.

The representative of the Bergen Telephone Company testified, on the other hand, that his company was opposed, as it had been at the previous hearing, to the exaction of any charge for service between Clinton and Bergen. The revenue from the 2 ct. toll, he said, was not sufficient to meet the expense of collecting it and the additional labor thrown upon the telephone operator by the necessity of making out toll tickets was so great as to interfere with the efficiency of the service. Moreover, witness said, the exaction of the 2 ct. toll had caused serious loss of business to merchants in Clinton as former customers in Bergen went elsewhere to make purchases rather than submit to the imposition of the toll. The number of messages transmitted from Bergen to Clinton, witness stated, had been reduced to one-third of the number formerly transmitted when the service was free.

The exact number of completed calls between the two telephone systems for each month since the Commission's order of October 19, 1912, went into effect was reported as follows by the representative of the Clinton Telephone Company:

Month.	Total number of calls between the two systems.	No. of calls Clinton to Bergen.	No. of calls Bergen to Clinton.
December 1912	579	239	340
January 1913	498	252	246
February 1913	504	230	274
March 1913	600	287	313
Total	2,181	1,008	1,173

The total revenue which should accrue from the tolls reported for the months named amounts to $43.62. Of this each telephone company, according to the terms of the order, should have received one-half, or the sum of $21.81.

It is impossible to accurately determine the effect of the 2 ct. toll in reducing the number of calls between the Bergen and Clinton systems for the reason that no adequate records of the amount of business done under free service are available. The only record of calls passing between the two systems under free service is a record which was submitted at the hearing in the previous case (1912, 10 W. R. C. R. 600), and which shows that during the ten day period from April 1, 1912, at noon, to noon of April 11, 1912, the total number of calls from Clinton to Bergen was 299, and from Bergen to Clinton 293. According to this record the average number of calls passing between the two systems each day of the period in question was 59. The average number of calls per day for the four months reported since the 2 ct. toll went into effect is 18. A comparison of the two records is not, of course, conclusive, but it indicates that a considerable reduction has been made in the number of messages transmitted between the two systems. The reduction seems to be due to a large extent to the elimination of unnecessary conversation and to be, therefore, in the interest of good service—a consideration which is of special importance in view of the fact that the order of the Commission in the present proceeding, as will appear later, will require the iron line to be used for long distance as well as for local service.

A careful review of the testimony at the rehearing and of other evidence of the facts in the situation at present existing in the business of the two utilities fails to reveal any valid reason for abandoning the 2 ct. toll or for changing the basis

upon which the revenue from this toll is divided. The order of October 19, 1912 (10 W. R. C. R. 598), will therefore remain unaltered insofar as these features are concerned.

THE LONG DISTANCE TOLL SERVICE.

Bergen and Clinton are directly connected by two telephone lines. One of these is an iron line over which the 2 ct. toll messages ordered by the Commission are sent between the two exchanges. This line is owned jointly by the Clinton Telephone Company and the Bergen Telephone Company. The other line is a copper line owned entirely by the Bergen Telephone Company and extending from Caledonia, Ill., through Bergen to the north village limits of Clinton, where it connects with the line of the Badger Telegraph and Telephone Company, giving service from Clinton to Janesville.

The iron line is used solely for local business between Bergen and Clinton, the Clinton Telephone Company having refused to transmit or receive long distance messages over this line. The copper line appears to be used only for messages going the full distance from Bergen to Janesville. Over this line the Bergen Telephone Company is able to "ring Janesville direct". When, however, the Bergen exchange has long distance messages—that is, messages from points south of Bergen—for Clinton, it is obliged to give them a roundabout routing by way of Sharon because of the refusal of the Clinton Telephone Company to accept long distance messages over either the iron or the copper line. The representative of the Clinton Telephone Company stated at the hearing that with respect to the iron line, this refusal was made on the ground that the Commission intended that line to be used only for the 2 ct. toll business. He also stated that the refusal to send long distance messages over the direct lines to Bergen was made in compliance with instructions contained in a letter from the general manager of the Badger Telegraph and Telephone Company at Janesville "prohibiting" the Clinton Telephone Company from taking messages from the south or sending messages to the south over the lines in question. According to these instructions the Clinton Telephone Company must route all of its messages to Caledonia by way of Sharon. The authority of the general manager of the Badger

Telegraph and Telephone Company to give such instructions is derived, the witness said, from certain contracts between the Badger company and the Clinton Telephone Company requiring the latter to route long distance calls as directed by the former.

The representative of the Bergen Telephone Company testified that the requirement that his company route all its long distance messages for Clinton by way of Sharon had resulted in an almost complete loss of the company's long distance business with Clinton. The company is compelled, witness stated, to charge a toll of 25 cts. for messages from Caledonia to Clinton routed by the roundabout way through Sharon, whereas it formerly charged but 15 cts. for messages from Caledonia sent directly to Clinton. The charge of 25 cts. is made up of a 15 ct. charge to Sharon plus a 10 ct. charge from Sharon to Clinton. The line from Sharon to Clinton is owned by the Badger Telegraph and Telephone Company, a fact which may explain the instructions given to the Clinton Telephone Company by the general manager of the Badger company. The representative of the Bergen Telephone Company asserted that the 25 ct. charge is prohibitory and, in support of this statement, called attention to the fact that the distance from Caledonia to Clinton is but thirteen miles when measured through Bergen directly to Clinton.

The Bergen Telephone Company desires better routing of long distance messages from Bergen to Clinton and authority to use either the copper line or the iron line for these messages as may be most convenient.

The representative of the Clinton Telephone Company took exception to the proposal that the iron line be used for the transmission of long distance messages, on the ground that such action would interfere with adequate service in the local business and suggested, as an alternative proposal, that a Waterloo jack be installed at Clinton in connection with the copper line and the line from Clinton to Janesville. Under present conditions, he said, it is impossible for Clinton to use the line to Janesville when Bergen is using the line either to Janesville or to Clinton, and it would also be impossible for Janesville to use the line to Clinton if Bergen were talking to Clinton over it. If a Waterloo jack were installed at Clinton, Clinton could send

messages to both Bergen and Janesville at the same time. Bergen and Janesville could continue to ring each other "direct" except when the line was busy between Clinton and Janesville or between Bergen and Clinton. Witness said further that it was immaterial to his company whether the jack were put in or not, but that the Janesville company, that is, the Badger Telegraph and Telephone Company, wanted the jack installed and was willing to pay for having it done.

The representative of the Bergen Telephone Company objected to the installation of the jack under any arrangement which would give the Clinton Telephone Company an opportunity to handle the long distance business of the Bergen company. If such an arrangement were in operation he feared that the Clinton company would take advantage of the Bergen company.

There seems to be no question but that the interests of good service at a reasonable rate demand a change in the methods of handling long distance business at the Bergen and Clinton exchanges. The first essential, in the opinion of the Commission, is the establishment of a rule requiring all long distance messages passing between the two systems to be routed directly from Clinton to Bergen or from Bergen to Clinton, as the case may be, instead of being sent by the more expensive, roundabout route through Sharon, as is done at present.

Although some objection was made to the proposal that the iron line be made available for long distance service between the Bergen and Clinton exchanges, the proposal seems to be one which is entirely reasonable. In this connection it should be noted that records kept for the four months December, 1912, to March, 1913, inclusive, summarized on a previous page, show that for the period covered the local business transacted between the Bergen and Clinton exchanges averaged but 18 calls per day. Satisfactory data with respect to the average number of long distance calls which might be transmitted between the two systems over the iron line, if it were open to long distance business passing between Bergen and Clinton, cannot be obtained in advance. It is the belief of the Commission, however, that the amount of the long distance business in question would not be sufficient to seriously interfere with the handling of the amount of 2 ct. toll business now carried on between the two

exchanges. The order of the Commission will therefore direct that the iron line between Bergen and Clinton be kept available for long distance as well as for local calls passing between the two points.

The advisability of installing a Waterloo jack at Clinton is a question which probably should be decided by the telephone companies interested. Under ordinary conditions a Waterloo jack would be some improvement over the present construction, for the reason that it would considerably increase efficiency in the use of the two parts formed in the Bergen to Janesville line by the insertion of the jack. The Commission, however, in view of the strained relations which have existed between the Clinton and Bergen companies, does not deem it best to order a change at this time from the direct connection between the copper line of the Bergen Telephone Company and the Clinton to Janesville line of the Badger Telegraph and Telephone Company. The introduction of the Waterloo jack at Clinton would place the Clinton company in control of the entire line from Bergen through to Janesville and would give the Clinton company the opportunity to cut the line into two parts at will. Whether or not the Clinton company actually made use of this opportunity to interfere with the business of the Bergen company, it is probable that the mere existence of the opportunity would serve but to increase the suspicion and friction already present in the relations of the two companies. If, however, the two companies can come to a reasonable agreement as between themselves and the Badger Telegraph and Telephone Company for the installation of the Waterloo jack or any other construction which will improve the service rendered the public, the Commission will welcome the adoption of such an agreement.

In considering a situation like the one involved in the present proceeding it should always be borne in mind that any method of connection which may be proposed will demand a certain amount of coöperation between the telephone companies affected if satisfactory service is to be given the public and the rights of each company are to be respected. In the case at hand the Commission cannot compel the two companies in controversy to develop a spirit of coöperation, but the Commission can and will insist, as a protection to long distance users of the line connecting the two exchanges, that there be no unnecessary or

improper interference by either company in the operation of the line when the line is in use by the other company.

With respect to the amount and distribution of the revenue which should arise from the use of the iron line for long distance service the Commission is of the opinion that a toll of 5 cts. should be charged for every long distance message transmitted between the two exchanges and that the amount of such tolls should be divided equally between the Clinton Telephone Company and the Bergen Telephone Company in the same manner as that in which the 2 ct. tolls are now divided. Definite data as to the amount of long distance traffic which will be handled over the iron line are of course unobtainable at this time. Cursory investigation, however, indicates that the 5 ct. toll charge will about cover the cost of handling the traffic.

The difference between the toll rate charged for the Bergen–Clinton service and the rate charged for long distance service is not believed to constitute an unjust discrimination. The 2 ct. toll was not intended to cover the entire cost of the service, for the 2 ct. toll business partakes largely of the nature of local business and its expense need be met only in part by the exaction of tolls. Moreover, the retention of the 2 ct. toll is in the interests of the long distance users of the iron line, because the toll, as has been previously stated, discourages the unnecessary use of the line in local business and thus makes it possible to employ the line to greater advantage for long distance business. There is no reason, however, for making the toll for long distance service less than the cost of rendering the service.

TELEPHONES IN CLINTON SERVED BY THE BERGEN TELEPHONE COMPANY.

The Bergen Telephone Company has maintained direct connection with three private telephones installed within the village of Clinton which is the district served by the Clinton Telephone Company.

The facts in this matter were presented by the Commission to the attorney-general and the latter rendered an opinion under date of February 27, 1913, to the effect that the Bergen Telephone Company was maintaining the service mentioned in violation of sec. 1797—74 of the Public Utilities Law and that the

company was therefore subject to the penalty imposed by section 1797m—95 of the same law. The fact that the number of subscribers given direct service is small and the further fact that some or all of these subscribers have furnished their own equipment are immaterial. The practice in question is clearly illegal and must be discontinued. No order of the Commission is necessary in the matter.

IT IS THEREFORE ORDERED: 1. That the Clinton Telephone Company and the Bergen Telephone Company shall route all long distance messages passing between the two systems directly from Clinton to Bergen or from Bergen to Clinton, as the case may be;

2. That the iron telephone line extending from Bergen to Clinton and owned jointly by the Clinton Telephone Company and the Bergen Telephone Company shall be available for long distance calls between the exchanges of the two companies as well as for local business and that the Clinton Telephone Company and the Bergen Telephone Company shall be prepared to render long distance service over this line;

3. That a toll charge of 5 cts. per call in addition to all other toll charges shall be made for the use of the line on all completed long distance calls exchanged between the two systems over the line, the company on whose lines or connecting lines the call originates to collect the revenue from such charges;

4. That all such toll revenue shall be divided equally between the two utilities; and

5. That, for the purposes of this order, all calls passing over this line which do not originate in the exchange of one utility and terminate in the exchange of the other utility shall be considered as long distance calls.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF THE RATES, RULES AND REGULATIONS OF THE MADISON GAS & ELECTRIC COMPANY.

Decided Nov. 28, 1913.

The Commission, on its own motion, investigated the rates of the Madison G. & El. Co. A valuation was computed on the basis of the fair value used in a previous investigation of the utility (1911, 7 W. R. C. R. 152) and subsequent additions to property, the revenues and expenses of the electric department were analyzed and the expenses were apportioned among the different classes of service.

Held: Though no alteration should be made in the gas rates at this time, because of changes which the utility is making in its methods of production, it appears that a substantial reduction in the rates for incandescent lighting is possible. It is therefore recommended[1] that the utility put in effect for this class of service a schedule of rates prescribed by the Commission.

The Commission has on two former occasions investigated and reduced the rates of the Madison Gas and Electric Company. The first order was the result of an investigation on the petition of the State Journal Printing Company et al. and was issued on March 8, 1910 (4 W. R. C. R. 501). In this decision the form of the electric rate schedule was changed so as to conform to scientific principles, certain discriminatory features were eliminated, the maximum rate was reduced from 16 to 14 cts. per kw-hr., and the minimum rate was reduced from 7 to 5 cts. per kw-hr. In the gas rates the number of thousand feet taking the primary and secondary rates were changed and the maximum rate was reduced from $1.25 to $1.15 per thousand cu. ft.

The second order was the result of an investigation by the Commission on its own motion and was issued July 5, 1911 (7 W. R. C. R. 152), reducing the primary rate for electricity from 14 to 12 cts., the secondary from 8.5 to 8 cts. and the excess from 5 to 4 cts. per kw-hr.

[1] Inasmuch as the findings of the Commission in this case are the result of an informal proceeding, no formal order is issued at this time.

The present investigation was started in February 1913 after the calendar year report was issued, at which time it was ascertained that still another reduction in rates was possible. No order, however, was issued at the time; because the city was contemplating quite an extensive change in the street lighting which might necessitate the shifting of some of the expenses, particularly so if the rate offered by the company deviated from the costs as shown by our analysis. It seems that the question of street lighting is now so nearly settled that we can tell what the effect is going to be; consequently there is no need of waiting longer.

In the 1911 decision (7 W. R. C. R. 152) $650,661 was used as the fair value of the electric plant for rate-making purposes, including working capital, material and supplies, and going value. Since that time the net additions to property have amounted to $179,343, making a total of $830,004. In this total is included the Williamson street steam station which is valued at about $100,000. This station is maintained wholly as a reserve at the present time. There is some doubt as to the necessity for such a reserve in view of the equipment available for that purpose in the turbine plant. It, however, is true that should the peak load increase this year about as much as it has increased each year during the past five years, the steam station would have to be put into operation if the large 1,500 kw. turbo-generator in the turbine station became disabled during such peak. On the other hand, it would seem that reserve equipment equal to that in the steam station could be added in the turbine station at much less than the steam plant costs. Such being the case, it seems only fair and reasonable that some recognition be given to this fact. In doing so, however, something should be included for the amortization of that part of the steam plant which is excluded but which is not covered by the depreciation reserve.

Following are the condensed income accounts of the electric plant for the year ending March 31, 1911, which was used as the basis of the 1911 decision, and for the year ending June 30, 1913:

Classification.	March 31, 1911		June 30, 1913.	
	Amount.	Per kw-hr. sold.	Amount.	Per kw-hr. sold.
Revenues	$235,898	$0.0630	$284,790	$0.0493
Expenses	113,943	.0305	139,613	.0242
Available for depreciation, interest and profits	$121,955	$0.0325	$145,177	$0.0251

A comparison of the revenues per kw-hr. sold shows the effect of the reduction in the lighting rates in 1911 and the subsequent addition of an a. c. power rate. The latter, however, covers such a small part of the total sales that its effect would not be very great. Of course, it might be argued that this decrease in unit revenue is the result of more current being used in the secondary and excess classes, but an analysis of the current consumed during the fiscal year 1913 shows that, while the use of current under the excess rate has grown, it has not been sufficient to make up this difference.

The operating expenses, excluding the fixed charges, have decreased from 3.05 to 2.42 cts. per kw-hr. sold. This has been partly due to the installation of turbo-generators and partly to the increased efficiency of management. We note that the company pays $2.92 per ton of 2,000 lb. for coal that yields 11,400 B. t. u. per pound, which is a much lower price than is paid by many other companies similarly located. A comparison of the pounds of coal used per switchboard kw-hr. by this company with that of other utilities also shows that, though the B. t. u. of the coal is low, this company is getting as much out of it as many other companies are getting out of the better grades.

It is to be noted also from the above table that, while the total net revenue has increased, the net revenue per kw-hr. sold has decreased from 3.25 cts. to 2.51 cts.

An apportionment of expenses including interest, depreciation and taxes between the different classes of consumers following in general the methods used in other decisions, is shown in the next table:

Class.	Capacity.	Output.	Total.
Incandescent	$90,866 40	$54,545 47	$145,411 87
Power	27,259 30	22,403 23	49,662 53
Arc	7,846 54	7,310 80	15,157 34
Traction	13,307 92	17,633 35	30,941 27
Total	$139,280 16	$101,892 85	$241,173 01

Comparing the totals in this table with the revenues received from the respective classes, we find that the greatest difference is in incandescent lighting, the earnings being $189,872.66 as compared with a cost of $145,411.87. In the power business, however, expenses are $49,662.53 as compared with a revenue of $43,329.31. This difference is due to the fact that in the above apportionment power has been treated as a coördinate branch of the business. Ordinarily power is considered as off-peak service with the result that it is not assessed with all the costs that it bears under the other method. This is an instance where the value of the service plays a part either in the apportionment of the expenses or in the subsequent adjustment that must be made in fixing on a rate schedule. In arc lighting the cost is $15,157.34 as compared with a revenue of $17,928.13. If the city contracts to burn its lights all night at the rate offered by the company this excess will be wiped out. The traction cost has been placed at the same figure as the revenue; because traction can be had only as additional business and therefore can be assessed with only so much of the cost as it can bear. The justification of this practice is so well established that it is not necessary to go into an explanation of it at this time.

The next table shows a comparison of the cost of incandescent lighting per kw-hr. sold for the various hours use per day, in the present and in the 1911 case:

Average No. of hours current is used per day.	*June 30, 1913.*						*March 31, 1911.*		
	Excluding steam station.			Including steam station.					
	Capacity.	Output.	Total.	Capacity.	Output.	Total.	Capacity.	Output.	Total.
	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.
1	8.90	2.25	11.15	9.29	2.34	11.63	7.21	4.18	11.39
2	4.45	"	6.70	4.64	"	6.98	3.61	"	7.79
3	2.97	"	5.22	3.10	"	5.44	2.40	"	6.58
4	2.22	"	4.47	2.32	"	4.66	1.80	"	5.98
6	1.48	"	3.73	1.55	"	3.89	1.20	"	5.38
8	1.11	"	3.36	1.16	"	3.50	.90	"	5.08
10	.89	"	3.14	.93	"	3.27	.70	"	4.88
12	.74	"	2.99	.77	"	3.11	.60	"	4.78

It will be noted that the present cost for the first hour's use is higher than that in 1911. This is entirely due to the fact that a different method was used in the apportionment of expenses between capacity and output as will be seen by a comparison of the output costs. The effect is that the cost per kw-hr. under the present apportionment decreases much faster with the increase in the number of hours use per day, than it does under former apportionments, the range in cost for the present year, excluding the steam station, being from 11.15 cts. to 2.99 cts. per kw-hr., and including the steam station from 11.63 cts. to 3.11 cts. per kw-hr., while in 1911 the range was from 11.39 cts. to 4.78 cts. per kw-hr.

A study of the above costs, both including and excluding the Williamson street steam station, suggests the following schedule for incandescent lighting.

10 cts. per kw-hr. for the first 30 hours' use per month of the active connected load.

6 cts. per kw-hr. for the next 60 hours' use per month of the active connected load.

2 cts. per kw-hr. for all additional current consumed.

During the year 2,136,547 kw-hr. were sold for incandescent lighting. The amounts consumed under each step of the rate schedule are as follows: primary 771,127 kw-hr., secondary 739,620 kw-hr. and excess 625,800 kw-hr. Applying to each step the rate suggested, we find that $77,112.70 probably will be the revenue from the primary, $44,377.20 from the secondary, and $12,516.00 from the excess, or a total of $134,005.90. In

addition to this there probably will be about $6,500 revenue from minimum bills. If the output charge of the sign lighting rate is reduced to the suggested rate for excess current, the revenue from this source will be about $3,142.12; as the active load in this class last year was 62.25 kw. and the current consumed 123,391 kw-hr. During the first four and one-half months of the fiscal year 1913 the University took 71,584 kw-hr. from the incandescent lighting circuits. The cost of this current is included in the expenses apportioned to incandescent lighting, but the revenue so far has not been included. The University no longer is supplied with this class of service; consequently it is necessary to make some adjustment, and this has been done by adding the $4,042.02 actually received for this service to the probable revenue. Adding the sums that it is estimated will be received from the various sources, we find that the total probable revenue for this class is $147,672.05, as compared with a cost shown in the apportionment of expenses above $145,411.87, leaving an excess of $2,260.18. The probable revenue from power service, including traction, will be about $74,270.66 as against a cost of $80,603.80, leaving a deficit of $6,333.14. As stated above, the change in street lighting coupled with the reduced rate is likely to leave no margin for that class of service. The non-operating revenues for 1913 amounted to $2,077.75, which gives a total probable revenue for the entire plant about $1,995.21, less than a reasonable return on a fair value of the plant when the steam station is included.

From our analysis it appears that a substantial reduction can be made in the rates for incandescent lighting. No change however, seems advisable in the gas rates at this time because the company is changing the method of production from water gas to coal gas. When normal operating conditions are again reached under this new method, it probably will be found that the cost of production has been cheapened, in which event a reduction in the gas rates also may be possible.

IT IS THEREFORE RECOMMENDED,[1] That the Madison Gas and Electric Company amend its present schedule of electric rates by placing in effect the following rates for incandescent lighting, beginning with its charges for current consumed during the month of December, 1913:

[1] Inasmuch as the findings of the Commission in this case are the result of an informal proceeding no formal order is issued at this time.

SCHEDULE OF RATES FOR INCANDESCENT LIGHTING SERVICE.

For all lighting service furnished residences and business places (hereinafter specifically referred to as classes A, B and C) including such incidental use of appliances for heating or power used on lighting circuits, and passing through the same meter and measured by a meter or meters owned and installed by the company, a charge of

Primary rate.

10 cts. net or 11 cts. gross per kilowatt-hour for current used equivalent to or less than the first thirty hours' use per month of active connected load.

Secondary rate.

6 cts. net or 7 cts. gross per kilowatt-hour for additional current used equivalent to or less than the next sixty hours' use per month of active connected load.

Excess rate.

2 cts. net or 3 cts. gross per kilowatt-hour for all current used in excess of the above ninety hours' use per month of active connected load.

For all interior lighting furnished the city of Madison (hereinafter specifically referred to as class D) a minimum charge equivalent to the rate specified above for classes A, B and C.

For all signs, outlines and window lighting, on a yearly contract basis (hereinafter specifically referred to as class E), a charge of 4.5 cts. net per active 50 watt equivalent per month, plus 2 cts. net or 3 cts. gross per kilowatt-hour for current consumed as estimated according to the schedule of hours of lighting now in use by the company.

Active connected load shall in each case be a fixed percentage of the total connected load, consisting of lamps, appliances, etc., installed upon the consumer's premises.

In class A are included residences, dwellings, flats and private rooming houses. Where the total connected load is equal to or less than 500 watts nominal rated capacity, 60 per cent of such total connected load shall be deemed active; where the installation exceeds 500 watts nominal rated capacity, 33⅓ per cent of such a part of the total connected load over and above 500 watts shall be deemed active.

In class B, where the total connected load is equal to or less than 2.5 kilowatts nominal rated capacity, 70 per cent of such total connected load shall be deemed active; where the installation exceeds 2.5 kilowatts nominal rated capacity, 55 per cent of such a part of the total connected load over and above 2.5 kilowatts shall be deemed active; provided that lamps used exclusively in space devoted to the storing of goods shall be placed at 20 per cent active and shall not be included in the 2.5 kilowatt hours specified above. Class B shall consist of banks, offices, business and professional (including studios, dressmaking parlors, massage parlors, millinery and hair dressing establishments, and photograph galleries), wholesale and retail merchandise establishments, such as art stores, bakeries, barber shops (including shoe-shining parlors and public baths), book stores, cigar stores, coffee and tea stores, commission stores, confectionery stores (including ice cream parlors), crockery and china stores, dry goods stores, drug stores, electrical supply houses, flower stores (including greenhouses), furniture and house furnishing stores, gents' furnishing stores (including hat stores and haberdasheries), grocery stores, hardware stores, harness shops, hay, grain, feed and coal offices and stores, jewelery stores, meat markets, millinery stores, milk depots, paint and wall paper shops, piano and music stores, picture stores, plumbing shops, saloons (including pool and billiard halls and adjoining card rooms), shoe stores and shoe repair shops, stationery stores, tailor shops (including dyers, cleaners and clothes pressing establishments), undertakers, upholsterers, and wine and liquor stores, theaters (including nickelodeons, shooting galleries, and similar amusement places), corridors and halls in office and apartment buildings upon separate meter, dance and public halls (including lodge and society rooms), restaurants (including eating places and lunch wagons), depots and public places for the conduct of railroad, street railway, express and telephone business (excluding freight warehouses), and all other consumers not herein otherwise specifically provided for.

In class C 55 per cent of the total connected load shall be deemed active. Such class shall consist of federal, state and county buildings; churches and missions; hotels and clubs; factories (including small industrial establishments such as

machine shops, carpenter shops, blacksmith shops, tin shops and cigar factories) closing not later than 6 p. m.; private and parochial schools; grain and tobacco elevators and warehouses, freight and storage warehouses, and stables and garages, both private, boarding and livery.

In class D 55 per cent of the total connected load shall be deemed active. Such class shall consist of all interior lighting for the city of Madison, including commercial alternating current for schools, police and fire stations, libraries, hospitals and other city buildings.

In class E the toal connected load shall be deemed active. Such class shall consist of unmetered lighting for signs, outlines and windows, contracted for upon a yearly basis.

Minimum bill.

The minimum bill shall be $1.00 net per month.

Where the company is unable to read meter after reasonable effort, the fact should be plainly indicated upon the monthly bill, the minimum charge of $1 assessed and differences adjusted with the consumer when meter is again read.

Discount.

Company shall bill all consumers at the gross rate, and the difference between the gross and net rates above specified, or one cent per kilowatt-hour, shall constitute a discount for prompt payment.

Company's present regulation that discounts shall not be granted after the 13th day of the month following the last date of meter reading is deemed reasonable.

Free maintenance of lamps.

Company shall renew burned-out or badly dimmed carbon filament lamps of the type originally furnished or installed by the company when returned unbroken to its office. Charges for the maintenance and replacement of other illuminants shall be reasonable and in accordance with the schedule of charges filed with the Railroad Commission.

Reconnection of meters.

For the reconnection of meters for the same consumer upon the premises a charge of $2 is deemed reasonable.

THE MILWAUKEE ELECTRIC RAILWAY AND LIGHT COMPANY
vs.
MILWAUKEE NORTHERN RAILWAY COMPANY.

Decided Dec. 1, 1913.

The T. M. E. R. & L. Co. petitions, under ch. 62, laws of 1913, for joint use of the tracks, wires and poles owned by the M. N. R. Co. on Wells st, between Fifth and Sixth sts., in the city of Milwaukee. The M. N. R. Co. denies that public convenience and necessity require such joint use of facilities and contends that the Commission is without power to grant the relief asked for prior to the construction by the T. M. E. R. & L. Co. of its tracks on Wells st. from Eleventh st. to Sixth st. The M. N. R. Co. operates in Milwaukee under an ordinance of the city of Milwaukee which reserves to the city the power to grant to any interurban railway or suburban street railway rendering service of like nature to that rendered by the M. N. R. Co. the right to use the tracks, roadway and motive power of the M. N. R. Co. within the limits of the city. Acting under the rights thus reserved to it, the city passed another ordinance on April 14, 1913, directing the T. M. E. R. & L. Co. to extend its tracks on Wells st. from West Water st. to Fifth st. and from Sixth st. to Eleventh st., connecting with the tracks of the M. N. R. Co. from Fifth st. to Sixth st. The two companies entered into negotiations looking toward an agreement under which the requirements of the ordinance could be fulfilled, but failed to come to such an agreement.

Although it is true that the joint use of tracks in the present case will mean increased risk to both companies and that the earnings of the M. N. R. Co. from such joint use for a period of many years might be wiped out by the losses arising from a single accident, this is not a sufficient reason for placing all of the burden of responsibility for accidents upon the T. M. E. R. & L. Co. Public policy would appear to forbid the relieving of a railway company of its natural responsibilities and it is also believed that the safety of operation will be promoted if each company is obliged to assume a liability in proportion to its responsibility for any accidents that may occur. Moreover, the joint use of the tracks is being forced, in a measure, upon both companies for the benefit of the public whose streets they occupy and there is no reason for discriminating between the two companies in the matter of liability for personal injuries.

The sliding scale car-mile basis proposed by the T. M. E. R. & L. Co. for the calculation of the compensation to be paid by that company to the M. N. R. Co. for the use of its tracks and overhead equipment is defective for the reason that the use of this basis will not permit an accurate adjustment of rates to costs under varying conditions of traffic and with different types of cars. The Commission therefore provides in the present order for the division of costs upon a ton-mile basis under which the

T. M. E. R. & L. Co. is to pay such proportion of the costs as the ton-miles operated by it over the portion of track in joint use bear to the total ton-miles operated over this portion of track.

Because of the practical impossibility of determining the weight of passengers carried and the danger of doing one company or the other an injustice if the weight of merchandise and express matter is included in the ton mileage while the weight of passengers is excluded, the weight of the load may well be disregarded for the sake of simplicity in the determination of ton mileage, whether the load be passengers or merchandise. This method of calculating ton mileage may not result in exactly the same proportioning of expenses as would be made if the load were included but it is believed that the results will be substantially the same. The contention that the use of this method will result in unjust discrimination where one company operates heavy interurban cars, which are, as a rule, but moderately loaded, while the other company operates light city cars, which are often crowded with passengers, is supported by no data offered in the present case, and it is believed that even if the traffic of the two companies is of a different nature the omission of the weight of passengers will not affect to any great extent the justice of the division of expenses proposed by the Commission.

The proposal made by the M. N. R. Co., that the monthly compensation to be paid by it to the T. M. E. R. & L. Co. for the use of electric energy, which it seems advisable to have the T. M. E. R. & L. Co. supply for the M. N. R. Co. over the portion of track to be subject to joint use, be equal only to the output cost of the M. N. R. Co. seems fair to both companies. In view, however, of the difficulties which would probably arise if the amount of the charge were left to the two companies to determine, the fact that the amounts involved are too small to justify an investigation by the Commission and the further fact that the rate of 1 ct. per kw-hr. offered by the T. M. E. R. & L. Co. is admittedly not excessive, it seems best to adopt the rate last mentioned.

Even though the joint use of tracks by competing lines may have an adverse effect upon the earnings of the company owning the tracks, the Commission must reject any proposal which would restrict such full and free use of the tracks as the needs of the community may demand. The Commission will, however, require such competition only in cases of urgent necessity. In the present case it appears that the M. N. R. Co. in accepting the franchise under which it uses the streets bound itself, when required by the city, to permit the operation over its tracks of such competing cars as those operated by the T. M. E. R. & L. Co.

Held: Public convenience and necessity require the joint use of the facilities in question, for the purpose of providing part of the additional trackage and greater flexibility in car routing necessary to prevent the overloading of the cars of the T. M. E. R. & L. Co. and permit the company to render adequate service. Such joint use will not prevent the M. N. R. Co. from performing its public duties nor result in irreparable injury to it or in any substantial detriment to the service.

It is therefore ordered that the M. N. R. Co. permit the joint use of that portion of its system located on Wells st. between Fifth st. and Sixth st. by the cars of the T. M. E. R. & L. Co., and by the cars of any other company or companies which the T. M. E. R. & L. Co. may operate over its own tracks, subject to terms and

conditions prescribed by the Commission. As a condition precedent to the obligations of the M. N. R. Co. under this order, however, the T. M. E. R. & L. Co. is to give substantial evidence of its acceptance of, and intention to comply with, the terms of the ordinance of April 14, 1913. The terms and conditions prescribed by the Commission relate chiefly to the observance of the prior, paramount and preferential right of the M. N. R. Co. to the use of its tracks and power in the city of Milwaukee; the duties, responsibilities and rights of each company with respect to the making of the necessary changes, new construction and connections required to render possible the joint use of tracks ordered, the maintenance of this construction, and its removal or alteration in case the joint use of tracks is, for any valid reason, terminated; the furnishing of the electric energy required for the operation of cars over the portion of track subject to joint use; the payment of licenses and special taxes on the cars so operated; the responsibility of each company for the fulfillment of its lawful obligations with respect to the tracks in question and for losses, damages and expenses sustained by reason of personal injuries resulting from the operation of cars over the portion of track in joint use; the compensation to be paid by the M. N. R. Co. to the T. M. E. R. & L. Co. for the electric energy used by the M. N. R. Co. in operating its cars over these tracks; and the compensation to be paid by the T. M. E. R. & L. Co. to the M. N. R. Co. for the use of the said tracks and other property of the M. N. R. Co.

This case is brought before the Commission by petition of The Milwaukee Electric Railway & Light Company dated June 3, 1913, and under the provisions of ch. 62, laws of 1913 which reads:

"Section 1. There is added to the statutes a new section to read: Section 1797–61. Whenever, upon complaint of any person, firm, corporation, or association, or any mercantile, agricultural or manufacturing society, or any body politic or municipal organization, after hearing heard pursuant to sections 1797—45, 1797—46, and 1797—47 of the statutes, the commission shall find that public convenience and necessity require the use by one or more street or interurban railroads of the tracks, wires, or poles, or any part thereof belonging to another street or interurban railroad or city, over or on any street, highway, bridge or viaduct in any city, village or town, upon which such street or interurban railroads have a right to operate, and that such use will not prevent the owner or other users thereof from performing their public duties nor result in irreparable injury to such owner or other users of such tracks, wires or poles, or in any substantial detriment to the service, and that such street or interurban railroads or such railroads and such city have failed to agree upon such use, or the terms and conditions or compensation for the same, the commission may by order direct that such use be permitted, and prescribe a reasonable com-

pensation and reasonable terms and conditions for such joint use; and for such purpose the commission shall have all the powers conferred on it by sections 1797–39 to 1797–60, inclusive, of the statutes, and if such service is not extended after such order, the commission shall have the power to order the service extended in accordance therewith.

Section 2. This act shall take effect and be in force from and after its passage and publication."

The petitioner alleges in substance that it has been authorized by an ordinance of the city of Milwaukee to extend its tracks on and along Wells street in the said city from West Water street to Eleventh street and to operate its regular street car service over such tracks; that public convenience and necessity require the use by the petitioner of the tracks, wires and poles of the respondent company on Wells street from Fifth to Sixth street; that such use will not prevent the respondent or other users of these facilities from performing their public duties nor result in irreparable injury to the respondent or other users, or in any substantial detriment to the service furnished; and that the petitioner and the respondent have failed to agree upon joint use and the terms, conditions and compensation for such use. The petitioner therefore prays that the Commission issue an order directing the respondent to permit the joint use desired by the petitioner upon such terms and conditions as may be reasonable.

The respondent in its answer makes general denial and specifically denies that public convenience and necessity require the joint use of the tracks, wires and poles in question and that such use will not result in irreparable injury to the respondent or other users, or in substantial detriment to the service furnished; and alleges that the public convenience and necessity claimed by the petitioner cannot arise and that the petitioner can have no grounds for appeal to the Commission and the Commission itself no jurisdiction in the matter until the petitioner has actually constructed its tracks upon Wells street from Eleventh street to Sixth street as indicated in the ordinance to which the petitioner refers.

Hearings were held in city of Milwaukee on July 14, 1913, and later dates, at which the following appearances were entered: *Miller, Mack & Fairchild* by *Edwin S. Mack* and *J. B.*

Blake for The Milwaukee Electric Railway & Light Company; *E. H. Bottom* and *F. W. Walker* for the Milwaukee Northern Railway Company; *Clifton Williams* for the city of Milwaukee.

The Milwaukee Northern Railway Company operates in the city of Milwaukee under authority of an ordinance passed March 22, 1906, which provides, among other things, that "said city of Milwaukee reserves the right to grant to any person, company or corporation owning or operating any interurban railway, or suburban street railway, whose business is of like nature as said railway company mentioned in this ordinance, the right to use such tracks, roadway and motive power if required of said railway company within the limits of said city. * * * Provided, however, that before using any portion of said railway tracks or roadbed upon or over which the said railway company shall acquire a franchise by this ordinance, said person, company or corporation shall pay or secure to be paid to said railway company its successors or assigns, a just and adequate compensation for the use of said tracks, power and roadbed."

Acting under the rights reserved to it in the ordinance above quoted, the city of Milwaukee, on April 14, 1913, passed the following ordinance:

File Number 3991.

AN ORDINANCE

Directing The Milwaukee Electric Railway & Light Company to extend its tracks on Wells street, from West Water street to Fifth street and from Sixth street to Eleventh street.

The Mayor and Common Council of the City of Milwaukee do ordain as follows:

"SECTION 1. There exists a reasonable necessity for the convenience of public travel that the tracks of The Milwaukee Electric Railway & Light Company should be extended from West Water street on Wells street to Fifth street and connecting with the tracks of the Milwaukee Northern Railway Company, and from Sixth street at a point connecting with the tracks of the Milwaukee Northern Railway Company on Wells street to Eleventh street and connecting with the tracks of The Milwaukee Electric Railway & Light Company thereat.

"SECTION 2. The Milwaukee Electric Railway & Light Company is hereby directed under the provisions of section 4 of a

certain ordinance passed January 2, 1900, granting certain franchise rights to said company to extend its tracks from and connecting with its tracks in West Water street, on and along Wells street to Fifth street and connecting thereat with the tracks of the Milwaukee Northern Railway Company, and from Sixth street on Wells street connecting at said Sixth street with the tracks of the Milwaukee Northern Railway Company to Eleventh street, connecting thereat with the tracks of The Milwaukee Electric Railway & Light Company; provided, that if said company finds any tracks in said Wells street between Second street and Fifth street, which may be adapted to its use, permission and authority is hereby given and granted to said grantee to use any such tracks, provided satisfactory arrangements can be made with the owners thereof, and the use by said company of such tracks is hereby legalized and considered an extension of its own tracks within the meaning of the ordinance of January 2, 1900, above referred to.

"SECTION 3. The tracks hereby directed to be laid shall be completed within six months after the passage and publication of this ordinance; and it is further provided, that The Milwaukee Electric Railway & Light Company is hereby given and granted the right, permission and authority, subject to the prior, paramount and preferential right of the Milwaukee Northern Railway Company to its tracks and other equipment on said Wells street, between Fifth street and Sixth street, to use said tracks and other equipment for the operation of its regular street car service from Fifth street to Sixth street upon such terms as may be agreed upon with said Milwaukee Northern Company, or otherwise determined according to law, and such use by said grantee is hereby legalized and approved.

"SECTION 4. This ordinance shall take effect and be in force from and after twenty days following its passage and publication."

The two companies entered into negotiations looking toward an agreement under which the requirements of the ordinance of April 14, 1913, could be fulfilled; but, as stated in the petition, they "have failed to agree upon such use and upon the terms and conditions and compensation for the same."

CONVENIENCE AND NECESSITY.

In its answer to the petition, the Milwaukee Northern Railway Company denies the existence of a public convenience and necessity that requires the proposed use of its tracks.

In the case, *City of Milwaukee v. T. M. E. R. & L. Co.* de-

cided Jan. 24, 1913 (11 W. R. C. C. R. 388, 342), it is stated that:

"The Commission recognizes the fact that the cars are very heavily loaded during the evening rush period and that relief is imperative. To order more cars on at this time will result in still greater congestion at certain intersections in the downtown district with corresponding delays in moving all cars to their destinations unless some means is provided to meet this situation. This order is issued and these recommendations made for the purpose of improving the situation to such an extent that the Commission can order more cars operated during the rush period without unduly increasing the congestion at busy corners."

The need exists for additional cars if overloading is to be abolished; but, as shown in an investigation made by this Commission through its engineers during the winter of 1912–1913, additional cars cannot be handled expeditiously during the evening rush hours on the downtown tracks as they exist at present. Continued observation of traffic conditions has confirmed this conclusion and has shown further that the conditions which make necessary additional trackage and more flexibility in car routing are general and that they are not intermittent but exist continuously.

Quoting further from the case above mentioned, page 338:

"A great deal of study has been made of the situation in the city of Milwaukee with a view of ascertaining the best means of furnishing adequate street car service. As a result it has been found advisable to require the construction of tracks in certain streets upon which the company now has no franchises. The Commission has recognized for some time that permanent good service necessitates changing the routing of some of the present car lines and the establishment of other lines. To this end recommendations were made some months ago to the city administration that certain franchises be granted to The Milwaukee Electric Railway & Light Company."

Among the franchises so recommended by this Commission was one covering tracks on Wells street between West Water and Eleventh streets, a portion of which is involved in the present controversy.

This Commission, therefore, is of the opinion that the facts before it warrant the belief that public convenience and necessity

do require the use of Wells street and the tracks in question by the cars of The Milwaukee Electric Railway & Light Company, if adequate service is to be provided.

It should be understood, however, that it is not the intention to use Wells street and that portion of the system of the Northern company located therein merely to relieve the Electric company of its peak load; the expectation is that in relieving the congestion that occurs during rush hours certain lines will be routed over the tracks in question and will operate over those tracks continuously throughout the day and not merely during rush hours.

No serious attempt is made to show that the proposed joint use of the property in question will prevent the owner or other users thereof from performing their public duties nor result in irreparable injury to such owner or other users of such property, or in any substantial detriment to the service.

Upon request of this Commission each of the interested parties has submitted a form of agreement embodying its ideas regarding the various points which it believes should be covered. There is substantial agreement upon many points. Discussion will be confined to certain matters concerning which there is difference of opinion.

Liability for Accident.

The matter of liability for accidents due to the operation of the cars of The Milwaukee Electric Railway & Light Company, hereinafter called the Electric company, over the tracks of the Milwaukee Northern Railway Company, hereinafter called the Northern company, appears to be considered of first importance, and upon this matter there is a decided difference of opinion. The Northern company proposes that "the Electric company will indemnify and save harmless the Northern company from any and all liability, claims, demands, cause or causes of action growing directly or indirectly out of the operation of cars or equipment operated by the Electric company under the terms of this agreement over said tracks on said portion of Wells street between Fifth street and Sixth street," the intention being to place upon the Electric company the liability for all accidents in which its cars might be involved, whether the ac-

cidents were due to the acts of its own employes or officials or to the acts of employes or officials of both companies, or even to the acts of employes or officials of the Northern company alone.

In support of its contention on this point the Northern company advances the following arguments: The operation of the cars of the Electric company over the tracks of the Northern company on Wells street will create two danger points in the terminal loop of the latter company: one at each end of the stretch of joint track. What the risk is cannot be predicted with any degree of accuracy, but it is quite possible that at some time during the joint operation there will be an accident of greater or lesser magnitude. Considering that this stretch of track is in the heart of the city where the cars are well filled, it is plain that an accident might easily be the cause of damage claims of considerable magnitude. Admitting that the Northern company operates under a franchise that reserves to the city the privilege of granting to other companies the right to use the tracks, roadway and motive power of the Northern company, attention is called to the fact that there is to be paid for the use of such tracks, power and roadbed a "just and adequate" compensation. It is argued that "no compensation can be adequate which would cause the Milwaukee Northern Railway Company to bear an additional expense by reason of the operation of the cars of The Milwaukee Electric Railway & Light Company over this piece of track." The length of track involved is so short that "no compensation per car-mile on one-tenth of a mile of track would be paid by The Milwaukee Electric Railway & Light Company that would reimburse the Northern company and save it harmless" from the damages for personal injuries for which it might have to settle. And it is further argued that "it is improper for such loss, if any, to be placed upon the Milwaukee Northern Railway Company and to be paid by the public that travels on its lines as patrons who are uninterested in the right of The Milwaukee Electric Railway & Light Company to operate over the tracks on Wells street except as such operation shall not be a basis which will permit of an increase in fare for passengers on the Milwaukee Northern Railway Company's line, and in the event that the compensation paid by The Milwaukee Electric Railway & Light Company

for the use of said tracks did not reimburse the Milwaukee Northern Railway Company for its actual expenses in connection with said use, then these actual expenses [that] go unpaid by the compensation received from The Milwaukee Electric Railway & Light Company must be paid by the patrons of the Milwaukee Northern Railway Company and must be taken into consideration at the present and in the future, as to what is a reasonable rate of fare on the Milwaukee Northern Railway," and, quoting further from the testimony, "if liability is to be assumed by the Milwaukee Northern Railway Company in addition to what it now has for the operation of its cars on Wells street between Fifth and Sixth streets by reason of the operation of The Milwaukee Electric Railway & Light Company's cars over said track, that sooner or later it will suffer irreparable injury by reason of said use by The Milwaukee Electric Railway & Light Company."

This Commission realizes that the joint use of these tracks will mean increased risk to both companies. It further realizes that the compensation which the Northern company will receive for the use of its property will be a comparatively small amount and that the earnings from this source for a period of many years might be wiped out by the losses and claims due to a single accident. It does not believe, however, that this is sufficient reason for taking all of the burden of responsibility for accidents from the Northern company and laying it upon the Electric company. In the first place, it would appear to be against public interest so to relieve a company of its natural responsibilities, and it is believed that it will add to the safety of operation if each company is obliged to assume a liability in proportion to its responsibility for any accidents that may occur. And further, it must be noted that the Electric company seeks the use of these tracks in order to fulfill its obligations under the ordinance of April 14, 1913. The joint use of the tracks is something that is being forced, in a measure, upon both companies, for the benefit of the public whose streets they occupy. They stand on equal footing and no reason exists for discriminating between them in the matter of liability. It is the view of this Commission that the Northern company is entitled to a "just and adequate compensation" for the use of its property, but that it cannot be relieved from its proper responsibilities.

COMPENSATION FOR USE OF TRACKS AND OVERHEAD EQUIPMENT.

Coming to the matter of compensation, the Electric company proposes "for the use of the Northern company's said tracks and property under the terms and conditions hereinbefore set forth, the Electric company shall and will pay to the Northern company for each car-mile operated over said tracks on Wells street between Fifth and Sixth streets by said Electric company at the rate of:

Six cents per car-mile for each of the first 5,000 car-miles or fractional part of car-mile per year operated over said tracks on Wells street between Fifth and Sixth streets by said Electric company;

Four and one-half cents for each of the next 5,000 car-miles, or fractional part of car-mile operated by said Electric company thereover per year;

Three cents for each of the next 5,000 car-miles or fractional part of car-mile operated by said Electric company thereover per year.

Two and one-half cents for each car-mile or fractional part of car-mile over 15,000 car-miles operated by said Electric company thereover per year."

In arriving at this rate of compensation the Electric company assumes that, as the use of the track and trolley only is contemplated, the lessor's expense incident thereto will consist of track maintenance, depreciation, taxes and return upon investment. Quoting from petitioner's "Exhibit C":

"These costs should aggregate as follows:

"*A. Operating expenses.*

"The portion of way and structures accounts containing the maintenance items in question and their cost per unit car-mile operated, as based upon the experience of The Milwaukee Electric Railway & Light Company for the calendar years 1911 and 1912 * * * amounts to 1.08 cts. per car-mile.

"*B. Fixed charges.*

"These costs are estimated as a percentage of the investment, viz.:

Depreciation (R. R. C. basis trolley & track)	7.60%
Taxes	1.97%
Returns upon investment	7.50%
	17.07%

"The investment involved * * * will aggregate $38,559.84 per mile of single track. Upon such a value, fixed charges will aggregate $6,582.16 per annum.

"*C. Total compensation.*

"Assuming various annual car-miles per mile of track, the rental will amount as follows:

Car-miles per mile of track.	Operating expenses per car-mile.	Fixed charges per car-mile.	Total.
100,000	$1 08	$6 58	$7 66
150,000	1 08	4 39	5 47
200,000	1 08	3 29	4 37
250,000	1 08	2 63	3 71
300,000	1 08	2 19	3 27

"Where both joint users provide a traffic density of 300,000 car-miles per mile of single track during the year, a reasonable compensation for such service will approximate 3.27 cts. per car-mile."

Upon the basis outlined above, the proper rate of compensation per car-mile would, of course, vary with the number of car-miles operated, the rate increasing as the number of car-miles decreases. The table in section C is offered as showing, under the column marked "Total", what the rate would be for various amounts of car mileage ranging from 100,000 to 300,000.

Three hundred thousand car-miles per mile is assumed to be the maximum that can be operated to advantage on a single track, the statement being made by the vice president of The Milwaukee Electric Railway & Light Company that "at present we operate on Grand avenue a schedule which equals approximately 304,700 car-miles per annum per mile of single track. That merely by way of illustrating that the 300,000 car-miles isn't probably far away from the use to which that track will probably be ultimately put and might be said to represent, we will say, 100% use of the track."

In arriving at the sliding rate of compensation proposed by the Electric company, the aim was to get an average rate of 4 cts. per car-mile, which average rate would correspond to a use of the track amounting to 225,000 car-miles per mile per annum, or, on this one-tenth of a mile of track to 22,500 car-miles per annum. The following table was prepared using the proposed sliding rate of compensation and assuming that various

total car mileages are distributed between the two companies in varying proportions:

1	2	3	4	5	6
Total car-miles on this 1/10 mile of track.	Car-miles operated by the Electric company.	Car-miles operated by the Northern company.	Average rate per car-mile paid by the Electric company.	Rate per car-mile paid by the Northern company.	Reasonable compensation per car-mile according to section C above quoted.
10,000	10,000	.....	$5 25	.....	$7 66
	5,000	5,000	6 00	$9 32	7 66
	.....	10,000	.....	7 66	7 66
20,000	20,000	.....	4 00	.....	4 37
	15,000	5,000	4 50	3 98	4 37
	10,000	10,000	5 25	3 49	4 37
	5,000	15,000	6 00	3 82	4 37
	.....	20,000	.....	4 37	4 37
30,000	30,000	.....	3 50	.....	3 27
	25,000	5,000	3 70	1 12	3 27
	20,000	10,000	4 00	1 81	3 27
	15,000	15,000	4 50	2 04	3 27
	10,000	20,000	5 25	2 28	3 27
	5,000	25,000	6 00	2 72	3 27
	.....	30,000	.....	3 27	3 37

Assuming that the rate of compensation shown in column 6 is a reasonable rate, then it is evident from the table that for a moderate use of this piece of track, the compensation paid by the Electric company under the sliding scale which it proposes would not be adequate. If the total use of the track is 10,000 car-miles, all due to operation of the cars of the Electric company, the Northern company will receive a gross income from this piece of track of $525, whereas $766 would be necessary to cover operating expenses and fixed charges. If 5,000 car-miles are due to operation of the cars of each company then the Electric company will pay $300, leaving $466 to be made up by the Northern company.

This discrepancy changes, as the car mileage increases, until the advantage rests with the Northern company, as indicated by the table. There appears to be no condition under which each company bears a share of the burden exactly proportionate to its use of the tracks.

In the opinion of this Commission a proper basis for such compensation involves consideration of (a) the cost of maintaining the property in good condition and repair, (b) net cost of renewals, replacements, and reconstruction necessary to

keep the property at all times in good condition and repair, (c) the taxes paid upon the property and (d) a reasonable rate of return upon the investment in the property. In this case it seems reasonable that the above items should be apportioned between the companies according to the use made by them of the track.

Inasmuch as some of the above items of cost vary for different railways, for different parts of any given railway and even from month to month for the same piece of track, it would seem preferable that, insofar as possible, the actual costs on the particular piece of property in question should be determined, rather than average costs for an entire system.

Certain of the above items are affected by the amount of traffic over the tracks. It is plain, therefore, that no definite rate of compensation per car-mile can be fixed that will be equitable to both parties under all conditions of traffic. To be equitable, the rate per car-mile would have to vary constantly with the traffic.

In a general way the proposition of The Milwaukee Electric Railway & Light Company is based upon the foregoing general principles; but it is open to the following objections:

A. A portion of the figures used represent average costs on The Milwaukee Electric Railway & Light Company's property instead of actual costs on the Milwaukee Northern Railway Company's property.

B. Although a sliding scale is provided it would not result in an equitable division of the costs between the two companies under all conditions of traffic.

C. The use of the car-miles as a unit would not give so equitable a division of the costs as the ton-mile, where two companies are involved, since the types of cars used by the different companies may differ considerably in weight and capacity. For example, one company might operate 100 cars, each weighing 20 tons and carrying 40 passengers, while the other company operated 100 cars, each weighing 40 tons and carrying 80 passengers. If the car-mile is taken as the unit, each company would bear an equal portion of the costs, which is manifestly unfair since the company using the light cars has not had as much use of the track as the other company. The ton-mile as a unit would give better results.

For the above reasons the Commission has provided in the following order for an exact accounting of costs on this piece of property, and for a division of the costs upon an approximate ton-mile basis, following closely the proposal of the Northern company in regard to this point.

Determination of Ton Mileage.

The discussions of this point have brought out some differences of opinion in regard to the method of determining tonnage. The Northern company proposes that "The ton-miles operated over said tracks by either company shall be computed upon the basis of the total number of tons of 2,000 lb. each passing thereover, except that in the case of passenger cars, the weight of any passengers, merchandise and express matter shall not be included in the tonnage." The Electric company proposes a clause that is similar except that it limits the space devoted to the carriage of merchandise or express in the case as passenger cars, the clause reading, "The ton-miles operated over said tracks by either company shall be computed upon the basis of the total number of tons of 2,000 lb. each passing thereover, except that in the case of passenger cars the weight of the passengers and the weight of merchandise or express, carried by either company in such cars, shall not be included in the tonnage, provided that the space devoted to the carriage of merchandise or express shall not be in excess of 16 square feet of floor space, but in the case of all cars used by either party for the transportation of merchandise or express exclusively and in the case of passenger cars in which the space devoted to the transportation of such commodities shall be in excess of 16 square feet of floor space, the actual weight of car and contents shall be included."

An accurate determination of the tonnage would require that the weight of the load carried should be taken into account as well as the weight of the car itself, whether the load consisted of passengers or of merchandise. The reason that both of the proposed clauses are so drawn as to omit the weight of passengers, although taking into account the weight of merchandise, is because the weight of the passengers is so variable and uncertain a quantity as to be practically impossible of exact determi-

nation. On the other hand, to omit the weight of the load in the case of passengers and to include it in the case of merchandise, would, under certain conditions, result in unjust discrimination. For example, the two companies might operate exactly the same tonnage over these tracks, taking into account both the weights of the cars and the weights of the loads; but if the business of one company were all passenger business while the business of the other company were largely freight or express, the latter company would suffer under such a provision. Its tonnage would include the weight of the cars and their loads, while the tonnage of the first company would include merely the weight of the cars, and since the cost of electrical current, of maintenance and of replacements, etc., would be divided in proportion to the ton mileage operated by each company, the company handling merchandise would have to pay the greater proportion of such cost even though its actual consumption of current and the wear and tear on the track and other property caused by its cars were exactly the same as that of the first company.

It is the opinion of this Commission that the weight of the load may well be omitted for the sake of simplicity, whether the load be passengers or merchandise. It should be kept in mind that the object aimed at in determining the ton-miles is the securing of a basis for proportioning between the two companies the cost of the electrical current, of maintenance, and of replacements, etc. The division of these costs should be in proportion to the use made of the property by each company and this use is assumed to be in proportion to the ton-miles operated over the tracks. It is not necessary, however, to know the exact tonnage in order to determine, with sufficient accuracy, the proportion each company should bear.

To illustrate, assume that company A operates 20-ton cars each carrying 40 people, and that company B operates 40-ton cars each carrying 80 people, and assume further that both companies operate the same number of cars over this piece of track. Then, if the weight of the passengers be excluded the expenses would be prorated 20 to 40, or 1 to 2. If the passengers are included at 150 each, the ratio will be 23 to 46 or, again, 1 to 2. In other words, if it be assumed (and the assumption is, approximately, true) that the capacity of the car varies in proportion to its weight, then, for the object arrived at in this in-

stance, the weight of the load may be omitted whether the load be passengers or merchandise. It is not contended that the omission of the load will result in exactly the same proportioning as there would be were the loads included, but it is believed that the results will be substantially the same and, because of the great difference in ease of application, the method of using only the weight of the cars themselves is to be preferred.

It has been suggested that this method will result in unjust discrimination where one company operates heavy interurban cars that, as a rule, are but moderately loaded, while the other company operates light city cars that are often crowded with passengers. No data were offered to support this contention. It is the opinion of the Commission that even in case the traffic of the two companies is of a different nature, as suggested, the omission of the weight of the passengers would not affect to any great extent the justice of the division of expenses. While the lighter city cars would be crowded on some of their trips, they would carry but a light load at other times. When the inbound cars are heavily loaded the outbound cars are often nearly empty and vice versa. Again, there are times during the day and night when the cars are but moderately loaded. It seems probable, even in this case, that the average loads will be in proportion to the weights of the cars.

Compensation for Electric Energy.

Because of the greater reliability of its energy output it is considered advantageous to have the Electric company supply the current over the stretch of track in question, and as compensation therefore the Electric company proposes that "the Northern company shall pay to the Electric company in monthly installments on or before the 20th day of each calendar month the sum of 1 cent per kilowatt-hour for all current actually consumed during the preceding calendar month by said Northern company."

The Northern company proposes that "the Northern company shall pay to the Electric company the Northern company's energy or output cost per kilowatt-hour for all such electrical energy consumed by it for the operation of its cars thereover."

It is argued in support of the Electric company's proposal

that 1 cent per kilowatt-hour is a lower rate than is paid by any other consumer. The Northern company does not criticize the rate as being excessive, but objects to the proposed method of determining the compensation as being an improper basis, arguing that "the Milwaukee Northern Railway Company should not be put to any additional expense in using the power of The Milwaukee Electric Railway & Light Company in operating its said cars over its tracks on Wells street between Fifth and Sixth streets over the expense it would be put to in operating its cars over said tracks on its own power."

No figures were offered to show what the cost to the Northern company would be under its own proposal so that no comparison of the rates under the two methods is possible at this time.

It is the opinion of this Commission that the contention of the Northern company is sound and that it would be fair to both companies if the Northern company were to pay to the Electric company a rate equal to its own output cost for energy, such cost not to include the total power house costs, but only such portion of the costs as might be affected by the decrease in the power requirements made on the Northern company's power plant under the proposed arrangement. It seems evident, however, from the discussion in connection with this point, that if the matter be left to the companies themselves, any attempt to fix a rate in conformity with the Northern company's proposal will be likely to result in dispute and dissatisfaction; on the other hand, it does not seem that the amounts involved in this case justify the time and expense necessary for an investigation into this matter on the part of this Commission, and since the rate offered by the Electric company admittedly is not excessive, it will be adopted.

COMPETING CARS.

The Northern company proposes that "the Electric company shall have no right hereunder to operate over said Northern company's tracks on said portion of Wells street any car or cars competing for traffic either within or without the city of Milwaukee with any car or cars operated by the Northern company."

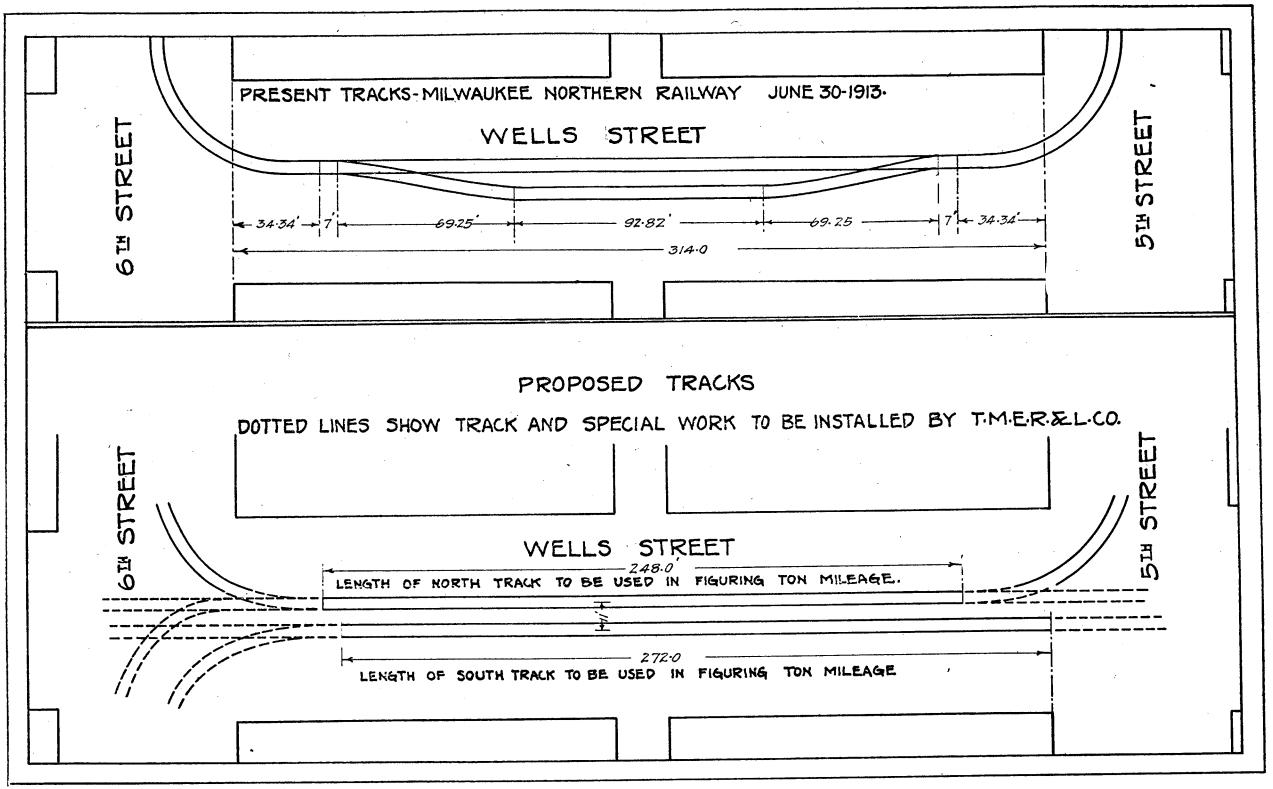
It is the contention of the Northern company that its cars are at present in competition with the Third street and Eighth street lines of the Electric company.

The Northern company argues "if such competing cars [that is, the Electric company's cars] were permitted to be operated over the tracks of the Milwaukee Northern Electric Company on Wells street, it would * * * work irreparable injury to the investors in the Milwaukee Northern Company."

It is quite possible that the routing of any one of the lines mentioned over the tracks in question might have an adverse effect upon the earnings of the Northern company. On the other hand, it is also possible that public convenience and necessity may require that so-called competing lines be routed over these tracks and the Commission must reject any proposal that would act as a restriction to such full and free use of those tracks as the needs of the community may demand. The Commission believes that, in accepting the franchise under which it operates, the Northern company bound itself to permit the operation of even such competing cars under the terms and conditions as laid down. Only under urgent conditions, however, would the Commission feel justified in requiring such competition and in that event the question of compensation might require adjustment.

The Commission finds that public convenience and necessity require the use by The Milwaukee Electric Railway & Light Company of the tracks, wires, and poles of the Milwaukee Northern Railway Company on Wells street between Fifth and Sixth streets in the city of Milwaukee and that such use will not prevent the owner or other users thereof from performing their public duties nor result in irreparable injury to such owner or other users of such tracks, wires or poles or in any substantial detriment to the service.

IT IS THEREFORE ORDERED, That the Milwaukee Northern Railway Company, hereinafter called the Northern company, permit the joint use of that portion of its system located on Wells street between Fifth street and Sixth street in the city of Milwaukee, by the cars of The Milwaukee Electric Railway & Light Company, hereinafter called the Electric company, and by the cars of any other company or companies which said electric company may operate over its own tracks, said joint use being subject to the following terms and conditions, which terms and conditions shall be subject to modification in whole or in part at any future time by order of this Commission.


PRESENT TRACKS-MILWAUKEE NORTHERN RAILWAY JUNE 30-1913.
WELLS STREET
6TH STREET
5TH STREET
34.34'
7'
69.25'
92.82'
69.25
7'
34.34'
314.0
PROPOSED TRACKS
DOTTED LINES SHOW TRACK AND SPECIAL WORK TO BE INSTALLED BY T.M.E.R.&L.CO.
WELLS STREET
6TH STREET
5TH STREET
248.0
LENGTH OF NORTH TRACK TO BE USED IN FIGURING TON MILEAGE.
11'
272.0
LENGTH OF SOUTH TRACK TO BE USED IN FIGURING TON MILEAGE

SECTION 1. As a condition precedent to the obligations of the Northern company under this order, the Electric company shall give substantial evidence of its acceptance of and intention to comply with the terms of the ordinance of April 14, 1913.

SECTION 2. That portion of the system of the Northern company of which joint use is hereby ordered is indicated on the plan shown in the figure on the preceding page.

SECTION 3. To the Northern company is expressly reserved the prior, paramount and preferential right to the use of its said tracks and power in the city of Milwaukee, anything herein to the contrary notwithstanding, and in no event shall the operation of cars by the Electric company over and upon said tracks under this order be permitted to interfere materially with the operation of the cars of the Northern company nor of the cars of any other company or companies which the Northern company may from time to time operate over its said tracks, nor the furnishing by the Northern company of adequate service to the public. The Electric company shall not have the right to operate cars over said tracks on any schedule or schedules that shall interfere with the Northern company's operation.

SECTION 4. To the Northern company is expressly reserved the right to make, from time to time, such reasonable rules and regulations governing the operation of all cars over and upon said tracks as may be necessary or desirable, such rules and regulations not to discriminate unduly in favor of the cars of any company. The Electric company will abide by said rules and enforce the observance thereof by its employes.

SECTION 5. *Paragraph 1.* The Northern company shall make the necessary changes in the arrangement of its tracks and shall complete the construction of its double track and the corresponding overhead installation, on that portion of Wells street between Fifth street and Sixth street, but shall not be required to make any changes nor complete any construction except on the piece of track limited on each end by the new special work that is hereinafter required in section 6 to be installed by the Electric company at Fifth street and at Sixth street, or, where no such special work will be required, by the west block line of Fifth street and the east block line of Sixth street, said limits being indicated on the plan shown above. Said construction

shall be of a type at least equal to that now existing on said portion of Wells street.

Paragraph 2. The Northern company shall make said changes and complete said construction and shall have the same ready for the use of the Electric company by the time the latter company is ready to operate thereover, and, should the Northern company fail so to complete said construction, then the Electric company shall have the right and is hereby given the right to enter upon said street and to complete said construction and the Northern company will repay the Electric company all the cost and expense thereof.

Paragraph 3. The difference between the value new of the proposed arrangement of tracks and the value new of the present arrangement will be considered an increase or decrease in the value of the physical property of the Northern company, to be entered accordingly in the accounts of said company. The difference between the total cost of making said changes and extensions and the increase in value of the physical property, or the sum of said total cost and the decrease in the value of the physical property, will be considered an operating expense. The amount so apportioned to operating expenses, less any credits due to value of material removed from existing tracks, will appear in the accounts which the Northern company is to open for said tracks as a maintenance expense, and will be apportioned between the two companies as hereafter provided in A (1) and A (2), paragraph 1, section 15. In the present case the value of the south track, after the changes and extensions, will be taken as being $792.00 less than the value of the track as it now exists.

SECTION 6. The Electric company shall, at its own expense, connect said double track of the Northern company by suitable frogs and switches with its own double track to the east and west thereof, as shown above upon the plan, but nothing herein contained shall be construed as curtailing the Northern company's rights and franchises or affecting its title to and control of a continuous track in its terminal loop, and if at any time operation under this order shall be lawfully terminated and in the opinion of this Commission the joint use of said portion of the Northern company's system shall be no longer required, it shall be the duty of the Electric company to remove

said frogs and switches and to replace them with the necessary rails and splices and to do such other work and make such other changes as may be necessary to provide a continuous track for the Northern company of a type of construction equal to that existing at the time said removal is made.

SECTION 7. *Paragraph 1.* The Electric company shall, at its own expense, make the necessary connections between its own system of poles, wires and fixtures and the poles, wires and fixtures of the Northern company so as to permit the Electric company to transmit its power to the Northern company's overhead system for the operation of all cars which may from time to time use that portion of the Northern company's tracks.

Paragraph 2. Neither of the companies shall be required to erect a second set of trolley wires; but, except as hereinafter specifically set forth, only one set of trolley wires shall be erected and maintained, which trolley wires shall be used in common by all cars which may operate upon said tracks.

Paragraph 3. If, however, either company should change its power or its method of transmission of power so as to require changes in the operation, appliances or rolling stock of the other company, or to hamper or impede materially the operation of the cars of the other company, then and in that event, if reasonably practicable without unduly interfering with the operation of the Northern company's overhead system and cars, the Electric company may, at its own expense, attach to and suspend from said poles and overhead system of the Northern company, such wires, cables, feeders and fixtures as may be necessary for the successful operation of its cars by means of its own power.

Paragraph 4. Nothing herein contained shall be construed as curtailing the Northern company's rights and franchises or affecting its title to and control of a continuous overhead system in its terminal loop, and if at any time operation under this order shall be lawfully terminated and in the opinion of this Commission the joint use of said portion of the Northern company's system shall be no longer required, it shall be the duty of the Electric company to remove said connections and to do such other work and to make such other changes as may be necessary to provide a continuous overhead system for the Northern company of a type of construction equal to that existing at the time such removal is made.

SECTION 8. *Paragraph 1.* From and after the commencement of the joint use of said tracks, the Northern company shall, at its own expense, maintain, replace and renew the double tracks and overhead system mentioned in section 5, so that the same shall be kept, at all times, in good condition and repair; and the Electric company shall, at its own cost and expense, maintain, replace and renew the frogs and switches mentioned in section 6 and the connections between its overhead system and the overhead system of the Northern company and the wires, cables, feeders and fixtures mentioned in section 7, so that the same shall be kept at all times in good condition and repair.

Paragraph 2. Should either company fail or refuse, upon written notice given by the other company, to make such repairs or renewals as may be necessary to keep said property in good repair and condition, and should such failure continue for an unreasonable time after receiving such notice specifying the defect and requesting the same to be remedied, then the company giving such notice shall have the right and is hereby given the right to enter upon the property of the other company and remedy such defect by making the necessary repairs and renewals forthwith and the other company shall repay it the cost of all materials and labor actually employed in making such repairs and renewals, together with the overhead expenses properly chargeable thereto.

SECTION 9. The Electric company shall furnish all the electrical energy required for the operation of cars over said portion of Wells street between Fifth street and Sixth street for a period of three years beginning at the time the Electric company shall commence the operation of its cars thereover, and at the expiration of said three year period, upon application of either company, this Commission will determine which party shall thereafter furnish said electrical energy and the conditions under which the same shall be supplied.

SECTION 10. Each company shall, at all times, keep its track, overhead system and rolling stock in first class operating condition.

SECTION 11. Each company shall pay and discharge all car licenses or special taxes legally imposed on the cars operated by it, or under its authorization, over said tracks on Wells street.

SECTION 12. *Paragraph 1.* The Northern company shall hold the Electric company harmless from any liability arising from any failure of the Northern company to comply with and fulfill its common law duties and the terms and conditions of its franchises, licenses and permits, and of any lawful ordinances, resolutions and regulations having reference to said tracks on Wells street and to the street between and adjacent to said tracks.

Paragraph 2. The Electric company shall hold the Northern company harmless from any liability arising from any failure of the Electric company to comply with and fulfill its common law duties and the terms and conditions of its franchises, licenses and permits, and of any lawful ordinances, resolutions and regulations having reference to said tracks on Wells street and to the street between and adjacent to said tracks.

Paragraph 3. In case either company shall fail to comply with or fulfill any of said duties, terms and conditions within thirty days after receiving written demand therefor from the other company, then and in that event the company making said demand may itself, at its option, do what is necessary to comply with or fulfill said duties, terms and conditions, and the reasonable cost thereof shall, on demand, be repaid to said company so complying with or fulfilling said duties, terms and conditions by the company so failing as aforesaid.

SECTION 13. *Paragraph 1.* The Northern company shall indemnify and save the Electric company harmless from any loss, damage or expense which said Electric company may sustain to its own property or to property in its custody or by reason of injuries to its agents, employes, or passengers, when said loss, damage or expense is caused by the operation of cars or equipment of the Northern company or the cars or equipment of any other company which said Northern company may have in its custody.

Paragraph 2. The Electric company shall indemnify and save the Northern company harmless from any loss, damage or expense which said Northern company may sustain to its own property or to property in its custody or by reason of injuries to its agents, employes, or passengers when said loss, damage or expense is caused by the operation of cars or equipment of the

Electric company or the cars or equipment of any other company which said Electric company may have in its custody.

Paragraph 3. Provided that, when said loss, damage or expense is caused by the fault or negligence of both companies, their servants, or employes, in the operation of cars or other equipment over said tracks, then and in that event, each company shall bear one-half of such loss, damage or expense, excepting attorney's fees.

Paragraph 4. In case any claims are made or actions brought against one of the companies, based solely upon the operation of the cars or equipment of the other company, then the company against which such claim is made or action brought may give written notice thereof to the other company and the other company shall, at its own cost and expense, settle such claim or defend action brought thereon.

Paragraph 5. In case action is brought against either company and the company against which such action is brought shall claim that the other company is liable for one-half of the damages demanded in said action, and they do not agree concerning such liability, then the company against which the action is brought shall notify the other company of such action, and the latter shall have the right to appear in said action and participate in the defense thereof, and shall have the right to defend said action to the court of last resort in the name of the company sued, in the event that the company sued shall fail, neglect or refuse so to defend or prosecute said action.

SECTION 14. *Paragraph 1.* On or before the last day of each month the Northern company shall pay to the Electric company as compensation for the electrical energy provided by the Electric company and consumed by the Northern company during the preceding calendar month in operating its cars over the tracks in joint use, a sum equal to the electrical energy so consumed multiplied by the rate of one cent per kilowatt-hour. This rate shall be subject to revision at the end of any fiscal year upon application to this Commission by either company.

Paragraph 2. The total amount of energy drawn from the overhead system on Wells street between Fifth street and Sixth street by all of the cars operating over the tracks on said portion of Wells street shall be measured by suitable recording meter or meters located on said portion of Wells street and con-

nected to said overhead system, said meter or meters to be installed, maintained, replaced and renewed at the expense of the Electric company. Said meter or meters shall be read at noon on the last day of each calendar month and each company shall have a right to have a representative present at the time of said reading.

Paragraph 3. The amount of energy consumed by the Northern company shall be considered as having the same ratio to the total energy drawn from the overhead system on said portion of Wells street, as the ton-miles operated over said tracks by the Northern company bear to the total ton-miles operated over said tracks, the ton-miles to be determined as hereafter provided in section 16.

Paragraph 4. If either company shall have reason to believe that the meter registers inaccurately, it shall have the right to require that a test be made of said meter, and shall make a request therefor in writing upon the other company, whereupon such meter shall be tested and calibrated in the presence of duly appointed representatives of both companies, and if, as a result of such test, the meter shall be found to be inaccurate, it shall be restored to an accurate condition or a new meter shall be substituted. Any meter tested and found not more than two per cent either above or below normal shall be considered correct.

Paragraph 5. If as a result of such test the meter shall be found to register in excess of two per cent either above or below normal, then the reading of said meter previously taken shall be corrected according to the percentage of inaccuracy found, but such correction shall not be applied to readings taken previous to the beginning of the calendar month preceding that in which such inaccuracy shall have been so discovered.

Paragraph 6. In the event that such a test, made upon written request of the Northern company, shall show that the meter does not register in excess of two per cent above normal, the Northern company shall pay the entire cost of making said test, otherwise the cost of such test shall be borne by the Electric company.

Paragraph 7. Each company shall have the right to maintain a seal upon each and every meter.

SECTION 15. *Paragraph 1.* On or before the last day of each month, the Electric company shall pay to the Northern company

as partial compensation for the use, during the preceding calendar month, of the Northern company's said tracks and other property the following amounts:

A (1) Such proportion of the monthly cost to the Northern company of maintaining that part of its system (including paving) that is located on the south side of the center line of said portion of Wells street and is used by the Electric company, in good condition and repair, as the ton-miles operated thereover by the Electric company bear to the total ton-miles operated thereover.

A (2) Such proportion of the monthly cost to the Northern company of maintaining that part of its system (including paving) that is located on the north side of the center line of said portion of Wells street and is used by the Electric company, in good condition and repair, as the ton-miles operated thereover by the Electric company bear to the total ton-miles operated thereover.

A (2) Such proportion of the monthly cost to the Northern ern company of so renewing, replacing and reconstructing that part of its system, (including paving) that is located on the south side of the center line of said portion of Wells street and is used by the Electric company, that the same is kept at all times in good condition and repair, as the ton-miles operated thereover by the Electric company bear to the total ton-miles operated thereover.

B (2) Such proportion of the monthly net cost to the Northern company of so renewing, replacing and reconstructing that part of its system (including paving) that is located on the north side of the center line of said portion of Wells street and is used by the Electric company, that the same is kept at all times in good condition and repair, as the ton-miles operated thereover by the Electric company bear to the total ton-miles operated thereover.

Paragraph 2. The net costs to the Northern company of renewals, replacements and reconstruction shall be determined as follows: Upon the date when the cars of the Electric company begin to operate over said tracks, the total accrued depreciation as of that date, hereafter called the *initial accrued depreciation,* on said portions of the Northern company's system (including paving) located on the south side and on the north side of the

center line of Wells street, shall be determined by this Commission, and at such time as operation under this order shall be lawfully terminated, the *final accrued depreciation* shall be determined according to the same methods employed in finding the initial accrued depreciation. The difference between the initial and the final accrued depreciations shall be added to or subtracted from the cost of all renewals, replacements and reconstruction made during the life of this order to said portions of the Northern company's system, said difference being added if the final accrued depreciation is greater than the initial accrued depreciation and subtracted if smaller, and the result so obtained shall be considered the *total net cost.*

Paragraph 3. The said *monthly net costs* to the Northern company of renewals, replacements and reconstruction on said portion of its system (including paving) shall be that portion of said costs falling due and payable each month. The said difference between the initial and the final accrued depreciation shall be considered as falling due and payable at such time as operation under this order shall be lawfully terminated.

Paragraph 4. The initial accrued depreciation as of the date above specified shall be taken as $175 for that portion south of said center line and $417 for that portion north of said center line, said depreciations being based upon the data and computations contained in paragraph 6 of this section.

Paragraph 5. On or before the last day of each July, the Electric company shall pay to the Northern company as partial compensation for the use during the preceding fiscal year of the Northern company's said tracks and other property:

D (1). Such proportion of the annual taxes paid by the Northern company upon that part of its system (including paving) that is located on the south side of the center line of said portion of Wells street and is used by the Electric company, as the ton-miles operated thereover by the Electric company bear to the total ton-miles operated thereover.

D (2). Such proportion of the annual taxes paid by the Northern company upon that part of its system (including paving) that is located on the north side of the center line of said portion of Wells street and is used by the Electric company, as the ton-miles operated thereover by the Electric company bear to the total ton-miles operated thereover.

C (1). One-twelfth of such proportion of an annual return of 8 per cent of the value new of that part of the Northern company's system (including paving) that is located on the south side of the center line of said portion of Wells street and is used by the Electric company, as the ton-miles operated thereover by the Electric company bear to the total ton-miles operated thereover.

C (2). One-twelfth of such proportion of an annual return of 8 per cent of the value new of that part of the Northern company's system (including paving) that is located on the north side of the center line of said portion of Wells street and is used by the Electric company, as the ton-miles operated thereover by the Electric company bear to the total ton-miles operated thereover.

Paragraph 6. Said values new shall be taken as $3,240 for that portion south of said center line and $2,930 for that portion north of said center line, said values being based upon a consideration of all the factors entering into the case, and being, in the opinion of this Commission, proper values to use in this instance.

SECTION 16. In the determination of the number of ton-miles operated over said tracks, only the weights of the cars themselves operated thereover shall be considered; the weight of any passengers, freight, express matter or other loads shall not be taken into account. The term "ton" shall be taken to mean the short ton of 2000 lb.

SECTION 17. *Paragraph 1.* On or before the 20th day of each month, each company shall render a statement to the other company, showing the ton-miles operated by the company rendering the statement, during the preceding calendar month over the tracks on said portion of Wells street. The Northern company shall include in its statement to the Electric company the amounts it has paid during the preceding calendar month for maintenance and for renewals, replacements and reconstruction in connection with said portion of its system, showing separately the amounts paid in connection with the track lying on the south side of the center line of Wells street and the amounts paid in connection with the track lying on the north side of said center line. Such statements shall be the bases upon which are computed the monthly payments hereinbefore specified.

Paragraph 2. On or before the 20th day of each July, the Northern company shall render to the Electric company a statement showing the amounts it has paid for taxes in connection with said portion of its system during the preceding fiscal year, showing separately the amounts paid in connection with the track lying on the south side of the center line of Wells street and the amounts paid in connection with the track lying on the north side of said center line, and such statements shall be the bases upon which are computed the annual payments specified in paragraph 7 of section 15.

Paragraph 3. Each company shall give the other company access to its books and records for the purpose of verifying the accuracy of any and all reports, statements rendered, or claims made pursuant to the terms of this agreement.

Paragraph 4. Any overpayment or underpayment shall be adjusted and paid yearly. The 30th day of June shall be considered the end of the fiscal year for the purposes of this order and the payment and adjustment shall be made on or before the 1st day of September following.

SECTION 18. All notices provided to be given by either company to the other under this order should be given in writing and served by registered mail on the president, or vice-president, or general manager for the time being.

SECTION 19. Thirty days shall be considered a reasonable length of time within which to comply with the terms and conditions of this order.

THE MILWAUKEE ELECTRIC RAILWAY AND LIGHT COMPANY
vs.
CHICAGO AND MILWAUKEE ELECTRIC RAILWAY COMPANY.

Decided Dec. 1, 1913.

The T. M. E. R. & L. Co. petitions for joint use of the tracks, wires and poles owned by the Chi. & Mil. El. Ry. Co. on Wells st., between Second and Fifth sts., in the city of Milwaukee. The Chi. & Mil. El. Ry. Co. denies that public convenience and necessity require such joint use of facilities and contends that the T. M. E. R. & L. Co. is not in a position to ask for an order for such joint use until that company has constructed its tracks on Wells st. according to the terms of the ordinance alleged to grant the company the right to use the street named. The Chi. & Mil. El. Ry. Co. also contends that the Commission has no legal or constitutional power to assume jurisdiction in the matter. The Chi. & Mil. El. Ry. Co. operates in Milwaukee under franchises which reserve to the city the right to grant to the T. M. E. R. & L. Co. permission to use the tracks of the Chi. & Mil. El. Ry. Co. under certain terms and conditions. Acting under the power thus reserved to it the city passed an ordinance on April 14, 1913, directing the T. M. E. R. & L. Co. to extend its tracks as specified on Wells st. and authorizing the company, in effect, to make use of the Chi. & Mil. El. Ry. Co's tracks on Wells st. between Second and Fifth sts. The two companies entered into negotiations looking toward an agreement under which the requirements of the ordinance might be fulfilled but failed to come to such an agreement.

That the joint use of tracks will increase the possibility of accident is obvious. The possibility of accident from defective equipment, for example, other things being equal, will be in proportion to the number of cars operated. Likewise the possibility of accidents involving pedestrians or vehicles will be greater with an increase in the street railway traffic. There is no evidence in the present case, however, to show that the joint use of tracks will increase the possibility of accident to abnormal proportions. It is the expectation of the Commission, moreover, that the standards maintained by the two companies with respect to the upkeep of rolling stock and the discipline of employes will be such as to reduce the number of accidents under joint use of tracks to a minimum.

The objection of the Chi. & Mil. El. Ry. Co., that the joint use of its tracks will diminish the value of its property through the adverse effect upon its business of the delays arising from such use and because the possession by the T. M. E. R. & L. Co. of the right to such use would be an encumbrance upon the property, does not appear to be well founded. The franchise under which the Chi. & Mil. El. Ry. Co. claims to operate provides for a joint use such as that now proposed, and, moreover, it

seems probable that this joint use will result in financial gain rather than injury to the company.

With respect to the matter of liability for accidents, the position taken by the Commission in *T. M. E. R. & L. Co. v. M. N. R. Co.* 1913, 13 W. R. C. R. 268, is cited and followed.

Both companies consider that a compensation based upon a rate per car-mile for the use of the tracks and overhead system in question would be satisfactory, but the two companies fail to agree upon what that rate shall be. The Commission, however, for reasons set forth in *T. M. E. R. & L. Co. v. M. N. R. Co., supra,* adopts the ton-mileage basis used in that case.

Each of the two companies claims the privilege of supplying power for the operation of cars over the portion of track to be subject to joint use. If the two companies could come to an agreement as between themselves to string two sets of trolley wires over this portion of track the Commission would probably approve such an arrangement, but in view of the friction and suspicion likely to arise from the creation of an opportunity for the theft of power by one company from the other the Commission is not inclined to order the installation of two sets of trolley wires. Ordinarily it would seem that the company owning the tracks should be permitted to furnish the power, if it desires to do so and is in a position to give adequate power service. Under the circumstances of the present case, however, it seems necessary to have the T. M. E. R. & L. Co. furnish the power.

Held: The Commission has power to act in this matter under the authority given by ch. 62, laws of 1913. The joint use of the facilities in question is required by public convenience and necessity, for the purpose of providing part of the additional trackage needed to permit the T. M. E. R. & L. Co. to reroute certain lines and thus relieve congestion of traffic during rush hours. Such joint use will not prevent the Chi. & Mil. El. Ry. Co. from performing its public duties nor result in irreparable injury to it or in any substantial detriment to the service.

It is therefore ordered that the Chi. & Mil. El. Ry. Co. permit the joint use of that portion of its system located on Wells st. between Second st. and Fifth st. by the cars of the T. M. E. R. & L. Co., and by the cars of any other company or companies which the T. M. E. R. & L. Co. may operate over its own tracks, subject to terms and conditions prescribed by the Commission. These terms and conditions relate chiefly to: the observance of the prior, paramount and preferential right of the Chi. & Mil. El. Ry. Co. to the use of its tracks and power in the city of Milwaukee; the duties, responsibilities and rights of each company with respect to the making of the necessary changes, new construction and connections required to render possible the joint use of tracks ordered, the maintenance of this construction and its removal or alteration in case the joint use of tracks is, for any valid reason, terminated; the furnishing of the electric energy required for the operation of cars over the portion of track subject to joint use; the payment of car licenses and special taxes on the cars so operated; the responsibility of each company for the fulfillment of its lawful obligations with respect to the tracks in question and for losses, damages and expenses sustained by reason of personal injuries resulting from the operation of cars over the portion of track in joint use; the compensation to be paid by the Chi. & Mil. El. Ry. Co. to the T. M. E. R. & L. Co. for the electric energy used by the Chi. & Mil. El. Ry. Co. in operating its cars over these tracks; and the compensation to be paid by the T. M. E. R. & L. Co. to the Chi. & Mil. El. Ry. Co. for the use of the said tracks and other property of the Chi. & Mil. El. Ry. Co.

This case is brought before the Commission upon petition of The Milwaukee Electric Railway & Light Company, dated June 3, 1913. The petitioner alleges, in substance, that it has been authorized by an ordinance of the city of Milwaukee to extend its tracks on and along Wells street in the said city from West Water street to Eleventh street and to operate its regular street car service over such tracks; that public convenience and necessity require the use by the petitioner of the tracks, wires and poles of the respondent company on Wells street from Second to Fifth street; that such use will not prevent the respondent or other users of these facilities from performing their public duties nor result in irreparable injury to the respondent or other users, or in any substantial detriment to the service furnished; and that the petitioner and the respondent have failed to agree upon joint use and the terms, conditions and compensation for such use. The petitioner therefore prays that the Commission issue an order directing the respondent to permit the joint use desired by the petitioner upon such terms and conditions as may be reasonable.

The respondent, in its answer, makes a general denial and specifically denies that public convenience and necessity require the joint use of the tracks, wires and poles in question and that such use will not result in irreparable injury to the respondent or other users, or in substantial detriment to the service furnished; and alleges that the petitioner has constructed no tracks which connect with the tracks of the respondent and is therefore in no position to request an order for joint use of tracks. The respondent also alleges that there is "no legal and existing right or any constitutional law of the state of Wisconsin" which gives the Commission authority to make any order in the subject matter of the petition.

Hearings were held on July 23, 1913, and subsequent days, at which the following appearances were entered: For the Milwaukee Electric Railway & Light Company, *Miller Mack & Fairchild*, by *E. S. Mack* and *Jas. B. Blake*; for the Chicago & Milwaukee Electric Railway Company, *Bull & Johnson*, by *F. W. Bull.*

The Commission has power to act in this matter under the authority given by ch. 62, laws of 1913.

The Chicago & Milwaukee Electric Railway Company claims to operate in Milwaukee under franchises granted by the com-

mon council on February 26, 1906, and October 14, 1907, which franchises reserved to the city the right to grant to The Milwaukee Electric Railway & Light Company permission to use the tracks under certain terms and conditions.

An ordinance, passed by the common council of the city of Milwaukee, on April 14, 1913, imposes the following obligations upon The Milwaukee Electric Railway & Light Company:

"SECTION 2. The Milwaukee Electric Railway & Light Company is hereby directed under the provisions of section 4 of a certain ordinance passed January 2, 1900, granting certain franchise rights to said company to extend its tracks from and connecting with its tracks in West Water street, on and along Wells street to Fifth street and connecting thereat with the tracks of the Milwaukee Northern Railway Company, and from Sixth street on Wells street connecting at said Sixth street with the tracks of the Milwaukee Northern Railway Company to Eleventh street, connecting thereat with the tracks of The Milwaukee Electric Railway & Light Company; provided, that if said company finds any tracks in said Wells street, between second street and Fifth street, which may be adapted to its use, permission and authority is hereby given and granted to said grantee to use any such tracks, provided satisfactory arrangements can be made with the owners thereof, and the use by said company of such tracks is hereby legalized and considered an extension of its own tracks within the meaning of the ordinance of January 2, 1900, above referred to."

The two companies have been in negotiation looking toward an agreement under which the terms of the ordinance of April 14, 1913, might be fulfilled. Although there appears to have been substantial agreement between them in regard to the greater part of the terms and conditions involved, it has been impossible to bring the negotiations to a successful issue, owing to decided differences of opinion upon certain important points, chief among them being the questions of liability for accidents, the compensation for the use of the tracks and the furnishing of power for that portion of the tracks in joint use. Discussion will be confined to certain of the points that are in dispute, it being assumed that the remainder of the terms and conditions that have been considered during the negotiations aforesaid, and which will form a part of this order, are satisfactory to both companies.

Attention is called to the case of *The Milwaukee Electric Railway & Light Company v. Milwaukee Northern Railway Com-*

pany, decided December 1, 1913 (13 W. R. C. R. 268), which is similar in many respects to the case in hand. Several of the matters about which there are differences of opinion in the present case, are discussed at length in the opinion issued in connection with the former case and will not be taken up here.

PUBLIC CONVENIENCE AND NECESSITY.

So far as public convenience and necessity are concerned, the situation as regards the tracks in question is similar to that involving the tracks of the Milwaukee Northern Railway Company on Wells street between Fifth street and Sixth street, which is discussed in the case of *The Milwaukee Electric Railway & Light Company v. Milwaukee Northern Railway Company,* above cited.

Conditions are such that the cars on certain lines of The Milwaukee Electric Railway & Light Company are overcrowded during rush hours. Investigation by this Commission has shown that it is not desirable to try to relieve the overloading by putting on more cars, because of the fact that the lines in question are already congested with traffic. It is necessary to provide additional trackage facilities in order to permit a rerouting of certain lines, thus relieving the congestion to such an extent that more cars can be operated. Among the additional tracks required, is the line on Wells street between West Water street and Eleventh street. In order that The Milwaukee Electric Railway & Light Company may construct such tracks and operate cars on that portion of Wells street it is essential that permission be granted for the joint use of any tracks already existing thereon.

DETRIMENT TO SERVICE OF RESPONDENT COMPANY.

It is the contention of the Chicago & Milwaukee Electric Railway Company that the proposed joint use of its tracks will result in substantial detriment to its service and, in support thereof, it presents the following claims and arguments:

The business of the company is increasing.

The increase is believed to be due largely to the regularity of service as compared with service on T. M. E. R. & L. lines and anything that affects this regularity will have an adverse effect upon the business of the company.

The possibility of accidents occurring on this piece of track, and resulting in blockades and delays that will affect the regularity of service over the entire system of the C. & M. E. Ry., will be increased by the proposed joint operation because—

1. Such joint operation of the same track by different companies tends to create confusion.

2. The men of different companies, in their rivalry, take increased risks in the operation of their cars in order to gain some fancied advantage over one another.

3. The increased number of cars operating over these tracks will mean increased possibility of break-down and consequent delay.

4. The increased number of cars will mean increased possibility of rear-end collisions.

5. The points of connection between the tracks of the two companies at Second street and Fifth street will be especially dangerous on account of possibility of derailments at the switches and of collisions between cars on the straight track and cars turning into the straight track.

6. The increase in the traffic on these tracks will result in increased possibility of accident and consequent delay at Fourth street where fast moving street traffic crosses these tracks at right angles.

In case of accident on this piece of track there is no chance for the C. & M. E. Ry. to reroute its cars so as to reach its terminus on Second street, and thus avoid the delays incident to such accident.

On the part of The Milwaukee Electric Railway & Light Company it is contended:

(a) That, in the opinion of the petitioner, the joint use of tracks by different companies, instead of resulting in increased possibility of that sort of accident that is due to error or carelessness on the part of the men in charge of the cars, would have an opposite effect, due to the fact that the men would naturally expect increased danger and would therefore operate with extraordinary care.

(b) That experience has shown that the danger from rear-end collisions is small.

It does not appear that the operation of additional cars over the track in question would, in itself, be detrimental to the service of the respondent company. The track is not used to its full capacity at present and it is therefore possible to devise schedules that will accommodate additional traffic without interfering seriously with the present service. The alleged difficulties would

be due to possible accidents or to the delay caused by such accidents.

That the possibility of accident will be increased to some extent under the proposed conditions, is apparent. The possibility of that class of accident caused by defective equipment, for example, if other conditions are equal, will be in proportion to the number of cars operated. Likewise the possibility of accidents involving pedestrians or vehicles increases with the increase of either the pedestrian and vehicular traffic or the street railway traffic. Other classes of accidents may follow the same law. The extent of such increase will be largely a matter of opinion until actual operation has furnished actual facts and figures. Nothing has been presented, however, that would justify the assumption that the proposed joint use will be surrounded by such conditions as to increase the possibility of accident to abnormal proportions.

While it is admitted that the possibility of accident will be increased, the actual number of accidents that occur will depend, to a large extent, upon the standards maintained by the two companies in such matters as the upkeep of the rolling stock and the discipline of the employes. It is the expectation of this Commission that those standards will be such that the number of accidents occurring on this piece of track under the proposed joint use will be a minimum, and that the delays arising therefrom will be practically negligible.

Injury to the Respondent Company.

It is claimed by the Chicago & Milwaukee Electric Railway Company that the proposed joint use of these tracks will diminish the value of its property, through the anticipated adverse effect upon its business of the delays arising from such use and because the possession of the right to such use by The Milwaukee Electric Railway & Light Company would be an encumbrance upon the property.

On behalf of the petitioner it is claimed that in view of the fact that the Chicago & Milwaukee Electric Railway is not using the tracks in question up to their full capacity and apparently has no immediate prospects of so using them, the proposed joint use of its tracks, instead of being an injury to the Chicago & Milwaukee Electric Railway Company, will be a benefit to the ex-

tent of the additional revenue derived therefrom, and that the property of the company will be worth more under such conditions to the purchaser who buys the road, not for the speculative value of possible strategic advantages it may possess, but as a business investment.

It would seem that the respondent company has little ground upon which to base its claims of injury. It is to be supposed that in accepting the franchise under which it claims to operate, which franchise provides for a possible joint use of its property such as is now proposed, the company accepted also the increased risk of accident which, being inherent in such use, it must have foreseen. Furthermore, from a purchaser's viewpoint, that proviso in the contract might well be as much of an encumbrance as the actual joint use for which it provides.

Under the law (ch. 62, laws of 1913) the proposed joint use is permissible unless such use will result in irreparable injury to the owner or in substantial detriment to the service, always provided, of course, that such use is required by public convenience and necessity. It appears clear that there will be neither irreparable injury to the owner nor substantial detriment to the service by the proposed joint use. On the contrary, there seems to be a probability that the respondent will obtain a financial advantage from the arrangement rather than an injury.

For these reasons and under these circumstances, this Commission can not allow the claim of injury to stand in the way of the proposed joint use of these tracks.

Liability for Accident.

In the preliminary negotiations between the two companies, substantial agreement was apparently reached in regard to the matter of liability for damages, what is spoken of as the "standard" damage clause being satisfactory to both companies. Later, the Chicago & Milwaukee Electric Railway Company indicated that its agreement to the "standard" clause was dependent upon the rate of compensation that was finally fixed for the use of its property.

This matter of liability for accident is discussed in the case of *The Milwaukee Electric Railway & Light Company vs. Milwaukee Northern Railway Company,* decided this day (13 W. R. C. R. 268), which involves the joint use of the tracks of the

latter company on Wells street between Fifth street and Sixth street. Quoting from that case:

"This Commission realizes that the joint use of these tracks will mean increased risk to both companies. It further realizes that the compensation which the Northern Company will receive for the use of its property will be a comparatively small amount and that the earnings from this source for a period of many years might be wiped out by the losses and claims due to a single accident. It does not believe, however, that this is sufficient reason for taking all of the burden of responsibility for accidents from the Northern company and laying it upon the Electric company. In the first place, it would appear to be against public interest so to relieve a company of its natural responsibilities, and it is believed that it will add to the safety of operation if each company is obliged to assume a liability in proportion to its responsibility for any accidents that may occur, and further, it must be noted that the Electric company seeks the use of these tracks in order to fulfill its obligations under the ordinance of April 14, 1913. The joint use of the tracks is something that is being forced, in a measure, upon both companies for the benefit of the public whose streets they occupy. They stand on equal footing and no reason exists for discriminating between them in the matter of liability. It is the view of this Commission that the Northern Company is entitled to a 'just and adequate compensation' for the use of its property, but that it can not be relieved from its proper responsibilities."

COMPENSATION FOR USE OF TRACKS AND OVERHEAD SYSTEM.

Both companies appear to consider that a compensation based upon a rate per car-mile would be satisfactory, but fail absolutely to agree upon what that rate should be. The Milwaukee Electric Railway & Light Company proposes a rate that will vary from 2½ cts. to 6 cts. per car-mile, depending upon the number of car-miles it operates over these tracks, while the Chicago & Milwaukee Electric Railway Company proposes a fixed rate of 25 cts. per car-mile.

The Commission's objections to attempting to fix a compensation based upon a rate per car-mile are set forth in the case before referred to—*The Milwaukee Electric Railway & Light Co. v. Milwaukee Northern Railway Co.* The ton-mileage basis determined upon for use in that case will apply also to the case in hand.

Supplying the Electrical Energy.

There is a decided difference of opinion between the two companies as to which shall supply the power for the operation of the cars over this piece of track, each company claiming that privilege.

The Milwaukee Electric Railway & Light Company advances as its reasons for believing that it should furnish the power, first, that it is willing to supply the power at a lower rate per kilowatt-hour than the cost to the Chicago & Milwaukee Electric Railway Company for power delivered to its trolley wire under present conditions, and second, that it can furnish a more reliable supply than the other company, because of the following conditions:

1. Its source of supply in this district will be very close, so that it can furnish current of good voltage.
2. It has several feeder cables available so that the supply would not be dependent upon a single cable.
3. The Chicago & Milwaukee Electric Railway Company purchases the power it uses in Milwaukee from The Milwaukee Electric Railway & Light Company, the power being generated at a power station near Wells street and transmitted underground and overhead a distance of three and one-half or four miles to a substation of the Chicago & Milwaukee Electric Railway Company at the extreme south limits of the city. It is there transformed from alternating to direct current and discharged into the feeder system of the Chicago & Milwaukee Electric Railway Company and carried back a distance of some three and one-half miles over a single feeder cable, crossing two branches of the river by submarine cable; thus the power is of low potential, or voltage, compared to the power that can be furnished by The Milwaukee Electric Railway & Light Company.

For its part the Chicago & Milwaukee Electric Railway Company insists upon its right as owner of the tracks in question, to furnish the necessary power and in addition contends:

(a) That, under its present contract for power, provision is made for a minimum consumption. If The Milwaukee Electric Railway & Light Company furnishes the power for this piece of track and charges the Chicago & Milwaukee Electric Railway Company for the proportion the latter uses, the condition might arise wherein the consumption of power by the Chicago & Milwaukee Electric Railway, on the remainder of its system, would drop below the minimum provided for in the contract,

in which case the Chicago & Milwaukee Electric Railway Company would have to pay for power it had not been able to consume because it was not allowed to supply its own power on Wells street and at the same time it would have to pay for the power which it took from The Milwaukee Electric Railway & Light Company on Wells street. In other words, the Chicago & Milwaukee Electric Railway Company might have to pay double for a portion of its power.

(b) The Chicago & Milwaukee Electric Railway Company does not suffer from power trouble at present, and is in a position to furnish reliable power on the piece of track in question.

This Commission believes that it is within its authority to decide which company shall supply the power.

It would be possible, in order to avoid dispute as to which company shall furnish the power, to string two sets of trolley wires over the tracks in joint use so that each company could use its own power. If such an arrangement were satisfactory to the companies interested, the Commission would probably offer no objection to the arrangement. Such an arrangement would simplify the matters of bookkeeping and compensation, but it is open to the criticism that the opportunity would then exist for cars of one company to take power from the wires of the other company by merely shifting the trolley pole from one wire to the other. On a short piece of track there would be but little incentive, perhaps, for the car men to make use of the opportunity, but on a long piece of track, under such joint usage, the opportunity might, for a number of reasons, be used. A mistaken sense of loyalty to the employing company or a personal grudge against the other company might be causes, or if there existed an appreciable difference in the potential of the two power supplies, there would be a temptation to take power from the wire that permitted easier and faster operation of the cars. Such a theft of power would be difficult to detect and to guard against, and even though no theft, intentional or otherwise, actually occurred, the situation would create an opportunity for suspicion and recrimination between the companies. For these reasons the Commission does not feel inclined to order the installation of two sets of trolley wires.

The Commission is inclined to the view that in cases such as the present, where joint use of tracks is proposed, the company owning the tracks should be permitted to furnish the power if it so desires, provided it is in a position to furnish a power that

will be reliable in character and adequate in quantity and quality. But when conditions are such that the owning company cannot furnish a satisfactory power, other provision must be made. It would be ridiculous for the Commission to order the joint use of a piece of track and at the same time permit the use of a power supply that was manifestly inadequate for the operation of cars thereover. Furthermore, the company that furnishes the power must be in a position to meet adequately the requirements of the traffic under both normal and emergency conditions.

Investigation on the part of the Commission has developed the following facts:

(a) The Chicago & Milwaukee Electric Railway Company buys a. c. power from The Milwaukee Electric Railway & Light Company and transforms it to 625 volt d. c. at its substation situated at the southern city limits. The substation capacity is 2,000 kw. in rotary converters which is sufficient to handle any probable demand arising from the proposed joint use.

(b) The current is transmitted from the substation to the trolley over one 750,000 c. m. feeder cable which extends to a point on Wells street within 45 feet of Second street. There are two places where submarine cable is used. Each of these submarine cables is in duplicate so that current can be switched from one to the other in case of trouble. The company's records show that there has never been any trouble on account of these cables. The distance from the substation to Wells street is approximately 3¼ miles. This feeder cable has given satisfactory service to date.

(c) The matter of minimum consumption under the Chicago & Milwaukee Electric Railway Company's contract for power need not be considered since the Chicago & Milwaukee Electric Railway is able to use to advantage on other portions of its system the small amount of current it may save on Wells street.

(d) The Milwaukee Electric Railway & Light Company could supply power from either the Oneida street station or the Commerce street station, both of which are nearby, so that plenty of current at good voltage can be supplied. A feeder cable from the Oneida street station would be between 1,000 and 1,500 feet in length.

(e) The Milwaukee Electric Railway & Light Company has a number of feeder cables available to serve this piece of track.

(f) While the Chicago & Milwaukee Electric Railway Company could probably take care of the power requirements arising from joint use under normal conditions, it is not equipped to supply the current that may occasionally be required under

emergency conditions. With one 750,000 c. m. feeder cable 3¼ miles long two 3/0 trolleys and a double track rail return, the total resistance in the feeder circuit, under the best conditions, would be at least 0.21125 ohms. In case of a blockade eighteen cars might be concentrated on one of the tracks between Second and Fifth streets with possibly seven or eight cars on the other track. Tests made with certain city-type cars of The Milwaukee Electric Railway & Light Company indicate that the cars, in starting, take from 100 to 130 amperes of current. It is almost certain that many of the cars will take current simultaneously when they begin to move. Assuming that fifteen cars are taking current on the first point of the controller, or say 120 amperes per car, the demand will be 1,800 amperes. These 1,800 amperes, flowing through a resistance of 0.21125 ohms produces a drop of 380 volts, which is excessive and exceeds the continuous safe carrying capacity of trolley and feeders. Such a voltage drop would not be considered good practice under the conditions. These calculations omit from consideration any other cars which might be on the remainder of the line of the Chicago & Milwaukee Electric Railway within the city limits. The current demands of such cars would of course increase the voltage drop beyond the 380 volts above mentioned.

(g) The actual cost of transmitting alternating current to the Chicago & Milwaukee Electric Railway Company's substation at the city limits, transforming it and carrying it back to Wells street, will be greater than the actual cost of supplying the current direct from the Oneida street or the Commerce street stations.

A consideration of these facts leads to the conclusion that the Chicago & Milwaukee Electric Railway Company can not meet the demand for current that may arise in cases of emergency, whereas The Milwaukee Electric Railway & Light Company is able to meet all demands, and furthermore can furnish the power in a much more economical manner. The Milwaukee Electric Railway & Light Company, therefore, should furnish the power.

Compensation for Electrical Energy.

The Milwaukee Electric Railway & Light Company proposes to furnish power for the tracks under joint use, charging the Chicago & Milwaukee Electric Railway Company a rate of 1 ct. per kilowatt-hour for the energy consumed by the latter company. The statement was made during the hearing that the Chicago & Milwaukee Electric Railway Company, under its pres-

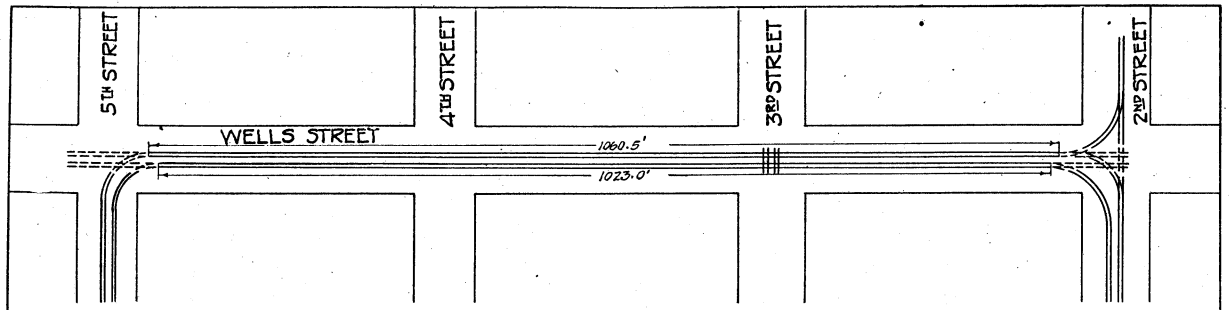
ent arrangement for power, pays from 1.4 cts. to 1.7 cts. per kilowatt-hour. This statement has not been refuted. Apparently, therefore, the proposed rate of 1 ct. per kilowatt-hour will not result in putting the Chicago & Milwaukee Electric Railway Company to any additional expense for power. Under the circumstances it appears better to use the proposed rate rather than to fix a rate based upon what it now costs the Chicago & Milwaukee Electric Railway Company to furnish power on these tracks.

The Commission finds that public convenience and necessity require the use by the Milwaukee Electric Railway & Light Company of the tracks, wires and poles of the Chicago & Milwaukee Electric Railway Company on Wells street between Second and Fifth streets in the city of Milwaukee and that such use will not prevent the owner or other users thereof from performing their public duties nor result in irreparable injury to such owner or other users of such tracks, wires or poles or in any substantial detriment to the service.

IT IS THEREFORE ORDERED, That the Chicago & Milwaukee Electric Railway Company, hereinafter called the Chicago company, permit the joint use of that portion of its system located on Wells street between Second street and Fifth street in the city of Milwaukee, by the cars of The Milwaukee Electric Railway & Light Company, hereinafter called the Electric company, and by the cars of any other company or companies which said Electric company may operate over its own tracks, said joint use being subject to the following terms and conditions which terms and conditions shall be subject to modification in whole or in part at any future time by order of this Commission.

SECTION 1. That portion of the system of the Chicago company of which joint use is hereby ordered is indicated on the plan shown in the figure on page 313.

SECTION 2. To the Chicago company is expressly reserved the prior, paramount and preferential right to the use of its said tracks and power in the city of Milwaukee, anything herein to the contrary notwithstanding, and in no event shall the operation of cars by the Electric company over and upon said tracks under this order be permitted to interfere materially with the operation of the cars of the Chicago company nor of the cars of any other company or companies which the Chicago company may from time to time operate over its said tracks, nor the furnishing by the Chicago company of adequate service to the pub-



DOTTED LINES SHOW TRACK AND SPECIAL WORK TO BE INSTALLED BY T.M.E.R.&L.CO.

LENGTH OF NORTH TRACK TO BE USED IN FIGURING TON MILEAGE = 1060.5'

LENGTH OF SOUTH TRACK TO BE USED IN FIGURING TON MILEAGE = 1023.0'

lic. The electric company shall not have the right to operate cars over said tracks on any schedule or schedules that shall interfere with the Chicago company's operation.

SECTION 3. To the Chicago company is expressly reserved the right to make, from time to time, such reasonable rules and regulations governing the operation of all cars over and upon said tracks as may be necessary or desirable, such rules and regulations not to discriminate unduly in favor of the cars of any company. The Electric company will abide by said rules and enforce the observance thereof by its employes.

SECTION 4. The Electric company shall, at its own expense, connect said double track of the Chicago company by suitable frogs and switches with its own double track to the east and west thereof, as shown upon the plan shown above, but nothing herein contained shall be construed as curtailing the Chicago company's rights and franchises or affecting its title to and control of a continuous track, and if, at any time, operation under this order shall be lawfully terminated and in the opinion of this Commission the joint use of said portion of the Chicago company's system shall be no longer required, it shall be the duty of the Electric company to remove said frogs and switches and to replace them with the necessary rails and splices and to do such other work and make such other changes as may be necessary to provide a continuous track for the Chicago company of a type of construction equal to that existing at the time said removal is made.

SECTION 5. *Paragraph 1.* The Electric company shall, at its own expense, make the necessary connections between its own system of poles, wires and fixtures and the poles, wires and fixtures of the Chicago company so as to permit the Electric company to transmit its power to the Chicago company's overhead system for the operation of all cars which may, from time to time, use that portion of the Chicago company's tracks.

Paragraph 2. Neither of the companies shall be required to erect a second set of trolley wires; but, except as hereinafter specifically set forth, only one set of trolley wires shall be erected and maintained, which trolley wires shall be used in common by all cars which may operate upon said tracks.

Paragraph 3. If, however, either company should change its power or its method of transmission of power so as to require changes in the operation, appliances or rolling stock of the other

company or to hamper or impede materially the operation of the cars of the other company, then and in that event, if reasonably practicable without unduly interfering with the operation of the Chicago company's overhead system and cars, the Electric company may, at its own expense, attach to and suspend from said poles and overhead system of the Chicago company, such wires, cables, feeders and fixtures as may be necessary for the successful operation of its cars by means of its own power.

Paragraph 4. Nothing herein contained shall be construed as curtailing the Chicago company's rights and franchises or affecting its title to and control of a continuous overhead system, and if at any time operation under this order shall be lawfully terminated, and in the opinion of this Commission the joint use of said portion of the Chicago company's system shall be no longer required, it shall be the duty of the Electric company to remove said connections and to do such other work and to make such other changes as may be necessary to provide a continuous overhead system for the Chicago company of a type of construction equal to that existing at the time such removal is made.

SECTION 6. *Paragraph 1.* From and after the commencement of the joint use of said tracks, the Chicago company shall, at its own expense, maintain, replace and renew that portion of its double tracks and overhead system in joint use, so that the same shall be kept at all times in good condition and repair; that the Electric company shall, at its own cost and expense, maintain, replace and renew the frogs and switches mentioned in section 4 and the connections between its overhead system and the overhead system of the Chicago company and the wires, cables, feeders and fixtures mentioned in section 5, so that the same shall be kept at all times in good condition and repair.

Paragraph 2. Should either company fail or refuse, upon written notice given by the other company, to make such repairs or renewals as may be necessary to keep said property in good repair and condition, and should such failure continue for an unreasonable time after receiving such notice specifying the defect and requesting the same to be remedied, then the company giving such notice shall have the right and is hereby given the right to enter upon the property of the other company and remedy such defect by making the necessary repairs and renewals forthwith and the other company shall repay it the cost of all materials and labor actually employed in making such repairs

and renewals, together with the overhead expenses properly chargeable thereto.

SECTION 7. The Electric company shall furnish all the electrical energy required for the operation of cars over said portion of Wells street between Second and Fifth streets for a period of three years, beginning at the time the Electric Company shall commence the operation of its cars thereover, and at the expiration of said three year period, upon application of either company, this Commission will determine which party shall thereafter furnish said electrical energy and the conditions under which the same shall be supplied.

SECTION 8. Each company shall, at all times, keep its track, overhead system and rolling stock in first class operating condition.

SECTION 9. Each company shall pay and discharge all car licenses or special taxes legally imposed on the cars operated by it, or under its authorization, over said tracks on Wells street.

SECTION 10. *Paragraph 1.* The Chicago company shall hold the Electric company harmless from any liability arising from any failure of the Chicago company to comply with and fulfill its common law duties and the terms and conditions of its franchises, licenses and permits, and of any lawful ordinances, resolutions and regulations having reference to said tracks on Wells street and to the street between and adjacent to said tracks.

Paragraph 2. The Electric company shall hold the Chicago company harmless from any liability arising from any failure of the Electric company to comply with and fulfill its common law duties and the terms and conditions of its franchises, licenses and permits, and of any lawful ordinances, resolutions and regulations having reference to said tracks on Wells street and to the street between and adjacent to said tracks.

Paragraph 3. In case either company shall fail to comply with or fulfill any of said duties, terms and conditions within thirty days after receiving written demand therefor from the other company, then and in that event, the company making said demand may itself, at its option, do what is necessary to comply with or fulfill said duties, terms and conditions, and the reasonable cost thereof shall, on demand, be repaid to said company so complying with or fulfilling said duties, terms and conditions by the company so failing as aforesaid.

SECTION 11. *Paragraph 1.* The Chicago company shall indemnify and save the Electric company harmless from any loss, damage or expense which said Electric company may sustain to its own property or to property in its custody or by reason of injuries to its agents, employes, or passengers, when said loss, damage or expense is caused by the operation of cars or equipment of the Chicago company or the cars or equipment of any other company which said Chicago company may have in its custody.

Paragraph 2. The Electric company shall indemnify and save the Chicago company harmless from any loss, damage or expense which said Chicago company may sustain to its own property or to property in its custody or by reason of injuries to its agents, employes, or passengers when said loss, damage or expense is caused by the operation of cars or equipment of the Electric company or the cars or equipment of any other company which said Electric company may have in its custody.

Paragraph 3. Provided that, when said loss, damage or expense is caused by the fault or negligence of both companies, their servants, or employes, in the operation of cars or other equipment over said tracks, then and in that event each company shall bear one-half of such loss, damage or expense, excepting attorney's fees.

Paragraph 4. In case any claims are made or actions brought against one of the companies, based solely upon the operation of the cars or equipment of the other company, then the company against which such claim is made or action brought may give written notice thereof to the other company and the other company shall at its own cost and expense settle such claim or defend action brought thereon.

Paragraph 5. In case action is brought against either company and the company against which such action is brought shall claim that the other company is liable for one-half of the damages demanded in said action, and they do not agree concerning such liability, then the company against which the action is brought shall notify the other company of such action, and the latter shall have the right to appear in said action and participate in the defense thereof, and shall have the right to defend said action to the court of last resort in the name of the company sued in the event that the company sued shall fail, neglect or refuse so to defend or prosecute said action.

SECTION 12. *Paragraph 1.* On or before the last day of each month the Chicago company shall pay to the Electric company as compensation for the electrical energy provided by the Electric company and consumed by the Chicago company during the preceding calendar month in operating its cars over the tracks in joint use, a sum equal to the electrical energy so consumed multiplied by the rate of one cent per kilowatt-hour.

Paragraph 2. The total amount of energy drawn from the overhead system on Wells street between Second street and Fifth street by all of the cars operating over the tracks on said portion of Wells street shall be measured by a suitable recording meter or meters located on said portion of Wells street and connected to said overhead system, said meter or meters to be installed, maintained, replaced and renewed at the expense of the Electric company. Said meter or meters shall be read at noon on the last day of each calendar month and each company shall have the right to have a representative present at the time of said reading.

Paragraph 3. The amount of energy consumed by the Chicago company shall be considered as having the same ratio to the total energy drawn from the overhead system on said portion of Wells street, as the ton-miles operated over said tracks by the Chicago company bear the total ton-miles operated over said tracks, the ton-miles to be determined as hereafter provided in Section 14.

Paragraph 4. If either company shall have reason to believe that the meter registers inaccurately, it shall have the right to require that a test be made of said meter, and shall make a request therefor in writing upon the other company, whereupon such meter shall be tested and calibrated in the presence of duly appointed representatives of both companies, and if, as a result of such test, the meter shall be found to be inaccurate it shall be restored to an accurate condition or a new meter shall be substituted. Any meter tested and found not more than 2 per cent either above or below normal shall be considered correct.

Paragraph 5. If as a result of such test the meter shall be found to register in excess of 2 per cent either above or below normal, then the reading of said meter previously taken shall be corrected according to the percentage of inaccuracy found, but such correction shall not be applied to readings taken previous

to the beginning of the calendar month preceding that in which such inaccuracy shall have been so discovered.

Paragraph 6. In the event that such a test, made upon written request of the Chicago company, shall show that the meter does not register in excess of 2 per cent above normal, the Chicago company shall pay the entire cost of making said test, otherwise the cost of such test shall be borne by the Electric company.

Paragraph 7. Each company shall have the right to maintain a seal upon each and every meter.

SECTION 13. *Paragraph 1.* On or before the last day of each month the Electric company shall pay to the Chicago company as partial compensation for the use during the preceding calendar month, of the Chicago company's said tracks and other property, the following amounts:

(a) Such proportion of the monthly cost to the Chicago company of maintaining that part of its system (including paving) that is located on said portion of Wells street and is used by the Electric company, in good condition and repair, as the ton-miles operated thereover by the Electric company bear to the total ton-miles operated thereover.

(b) Such proportion of the monthly net cost to the Chicago company of so renewing, replacing and reconstructing that part of its system (including paving) that is located on said portion of Wells street and is used by the Electric company that the same is kept at all times in good condition and repair, as the ton-miles operated thereover by the Electric company bear to the total ton-miles operated thereover.

Paragraph 2. The net costs to the Chicago company of renewals, replacements and reconstruction shall be determined as follows: Upon the date when the cars of the Electric company begin to operate over said tracks, the total accrued depreciation as of that date, hereafter called the *initial accrued depreciation* on said portion of the Chicago company's system (including paving) located on Wells street shall be determined by this Commission and at such time as operation under this order shall be lawfully terminated the *final accrued depreciation* shall be determined according to the same methods employed in finding the initial accrued depreciation. The difference between the initial and the final accrued depreciations shall be added to or subtracted from the cost of all renewals, replacements and reconstruction made, during the life of this order, to said portions of

the Chicago company's system, said difference being added if the final accrued depreciation is greater than the initial accrued depreciation and subtracted if smaller, and the result so obtained shall be considered the *total net cost*.

Paragraph 3. The said *monthly net costs* to the Chicago company of renewals, replacements and reconstruction on said portion of its system (including paving) shall be that portion of said costs falling due and payable each month. The said difference between the initial and the final accrued depreciations shall be considered as falling due and payable at such time as operation under this order shall be lawfully terminated.

Paragraph 4. The initial accrued depreciation as of the date above specified shall be taken as Two Thousand Four Hundred and Thirty Eight ($2,438) Dollars.

Paragraph 5.

(c) One-twelfth (1-12) of such proportion of an annual return of 8 per cent of the value new of that part of the Chicago company's system (including paving) that is located on said portion of Wells street and is used by the Electric company, as the ton-miles operated thereover by the Electric company bear to the total ton-miles operated thereover.

Paragraph 6. Said value new at the date of this order shall be taken as Seventeen Thousand Six Hundred and Fifty Four ($17,654) Dollars, said value being based upon a consideration of all the factors entering into the case and being, in the opinion of this Commission, a proper value to use in this instance.

Paragraph 7. On or before the last day of each July, the Electric company shall pay to the Chicago company as partial compensation for the use during the preceding fiscal year, of the Chicago company's said tracks and other property:

(d) Such proportion of the annual taxes paid by the Chicago company upon that part of its system (including paving) that is located on said portion of Wells street and is used by the Electric company, as the ton-miles operated thereover by the Electric company bear to the total ton-miles operated thereover.

SECTION 14. In the determination of the number of ton-miles operated over said tracks, only the weights of the cars themselves operating thereover shall be considered; the weight of any passengers, freight, express matter or other loads shall not be taken into account. The term "ton" shall be taken to mean the short ton of two thousand (2,000) pounds.

SECTION 15. *Paragraph 1.* On or before the 20th day of each month, each company shall render a statement to the other company, showing the ton-miles operated by the company rendering the statement during the preceding calendar month over the tracks on said portion of Wells street. The Chicago company shall include in its statement to the Electric company the amounts it has paid during the preceding calendar month for maintenance and for renewals, replacements and reconstruction in connection with said portion of its system. Such statements shall be the bases upon which are computed the monthly payments hereinbefore specified.

Paragraph 2. On or before the 20th day of each July the Chicago company shall render to the Electric company a statement showing the amounts it has paid for taxes in connection with said portion of its system during the preceding fiscal year and such statements shall be the bases upon which are computed the annual payments specified in paragraph 7 of section 13.

Paragraph 3. Each company shall give the other company access to its books and records for the purpose of verifying the accuracy of any and all reports, statements rendered or claims made pursuant to the terms of this agreement.

Paragraph 4. Any overpayment or underpayment shall be adjusted and paid yearly. The 30th day of June shall be considered the end of the fiscal year for the purposes of this order and the adjustment and payment shall be made on or before the first day of September following.

SECTION 16. All notices provided to be given by either company to the other under this order shall be given in writing and served by registered mail on the president, vice president, or general manager for the time being.

SECTION 17. Thirty days is considered a reasonable length of time within which to comply with the terms and conditions of this order.

JOHN HOFFMAN & SONS COMPANY
vs.
CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY, CHICAGO AND NORTH WESTERN RAILWAY COMPANY, GREEN BAY AND WESTERN RAILROAD COMPANY.

Submitted May 6, 1913. Decided Dec. 4, 1913.

Complaint is made that the respondent railway companies have failed to comply with the order issued in this matter on Aug. 15, 1912 (9 W. R. C. R. 530), requiring them to so arrange their schedules that goods shipped in less than carload lots from Milwaukee to Seymour, Black Creek and Shiocton shall reach their destination within 84 hours from the time of delivery to the carrier at Milwaukee. The advisability of modifying the provisions of this order is under consideration. It appears that if a shipment does not reach its destination in 66 hours, it is inevitably delayed another 24 hours and it was suggested by the respondents that the order be modified to allow 90 hours in transit instead of 84, since a limitation to 84 hours is in effect a limitation to 66 hours.

Held: A 66 hour limit allowing 36 hours, after 6 p. m. of the day on which the goods are received, for transportation over the C. M. & St. P. Ry. or the C. & N. W. Ry. from Milwaukee to Green Bay and 30 hours for the Green Bay & Western R. R. Co. to sort the goods and carry them from Green Bay to the points designated, is reasonable. The respondents are therefore ordered to so arrange their schedules as to comply with this limit.

REHEARING.

An order was issued in this matter on August 15, 1912, requiring the respondent railway companies to so arrange their schedules that goods shipped in less than carload lots from Milwaukee to Seymour, Black Creek and Shiocton shall reach their destination within a period of eighty-four hours from the time that the said goods are delivered to the carrier at Milwaukee (9 W. R. C. R. 530). Subsequently the Commission received several complaints from the petitioner to the effect that two of the respondents, the Chicago, Milwaukee & St. Paul and the Green Bay railway companies had failed to comply with the order. The matter was placed before the railway companies, and in view of the representations made by them it was deemed

advisable to order a rehearing for the purpose of ascertaining whether any conditions exist which warrant a modification of the former order.

This rehearing was held on May 6, 1913, at Madison, with the following appearances: For the petitioner, *E. W. Hoffman;* for the C. & N. W. Ry. Co., *C. A. Vilas;* for the C. M. & St. P. Ry. Co., *J. N. Davis;* for the G. B. & W. R. R. Co., *J. B. Call.*

It appears from the testimony that goods delivered in Milwaukee in the afternoon for shipments to the points designated in the order over the line of the Chicago, Milwaukee & St. Paul Railway Company, leave Milwaukee at an early morning hour and are scheduled to arrive at Green Bay between 3 p. m. and 7 p. m. on the same day. The superintendent of the Chicago, Milwaukee & St. Paul Railway Company testified that under ordinary circumstances 36 hours would be ample time for the shipment of goods from Milwaukee to Green Bay and for the delivery of such goods to the Green Bay & Western Railroad Company. The superintendent of the Chicago & North Western Railway Company stated that the time required on his road is substantially the same as that required on the Chicago, Milwaukee & St. Paul Railway Company's line. Since the distance from Green Bay to Shiocton, the most distant point involved, is only 31 miles, it is obvious that the chief source of delay lies in the sorting of goods at Green Bay after they are received by the Green Bay & Western Railroad Company.

It was developed at the hearing that if a shipment does not reach its destination in 66 hours, it is inevitably delayed another 24 hours. For this reason it was suggested that the order be modified to allow 90 hours in transit instead of 84, since a limitation to 84 hours is in effect a limitation to 66 hours. Under a 66 hour limit, if an allowance of 36 hours is made for the shipment over the line of the Chicago, Milwaukee & St. Paul Railway Company or the line of the Chicago & North Western Railway Company, 30 hours will be left for the Green Bay & Western Railroad Company to sort the goods and carry them from Green Bay to the points designated. In our judgment 30 hours should be ample for this operation, except under very abnormal conditions.

Our former order herein is therefore modified; and

IT IS HEREBY ORDERED: 1. That the respondents, the Chicago, Milwaukee & St. Paul Railway Company and the Chicago & North Western Railway Company, so arrange their schedules that goods shipped in less than carload lots from Milwaukee to Seymour, Black Creek and Shiocton shall be delivered to the Green Bay & Western Railroad Company at Green Bay within 36 hours after six p. m. of the day upon which the goods are delivered to the carrier in Milwaukee.

2. That the respondent, the Green Bay & Western Railroad Company, so arrange its schedule that goods in less than carload lots destined for Seymour, Black Creek and Shiocton, from Milwaukee via the Chicago, Milwaukee & St. Paul Railway Company, or the Chicago & North Western Railway Company, shall reach their destination within 30 hours after their delivery to said Green Bay & Western Railroad Company at Green Bay.

IN RE APPLICATION OF THE MANITOWOC GAS COMPANY FOR AUTHORITY TO INCREASE RATES.

Submitted Aug. 26, 1913. Decided Dec. 4, 1913.

The Manitowoc Gas Co. applies for authority to put into effect a schedule of increased rates. The present rates are the result of a series of rate amendments made voluntarily by the utility since 1907 and effecting successive reductions, apparently for the purpose of developing business. The utility now compares favorably, in respect both to number of consumers and sales per consumer, with other gas utilities in the state operating under similar circumstances, and it is unlikely that anything more than a gradual, normal development of the business will be experienced in the future. A physical valuation of the property was made and the total value, including all elements, established as between $196,000 and $200,000, a final statement of the value of the property not being necessary to the decision of the case. The utility offers no valuation of the property as a whole but submits a brief enumerating amounts claimed for various elements of value. This brief is considered in detail. Investigation of the earnings and expenses of the utility for the past two fiscal years shows that when proper charges are made to operating expenses for promotion of business, general expenses and depreciation the amount available under the present rates for interest and profits is insufficient to provide even a 6 per cent return on the value of the property when taken at the lower figure stated above. To arrive at a schedule of rates which will yield a fair return, tentative apportionments of expenses between consumer and output expenses are made upon an assumed valuation of $200,000 for interest rates of 6 and 7 per cent, respectively, and estimates are made of the revenues which, as shown by the experience of other gas plants investigated by the Commission, would probably result from a number of different rate schedules.

It is clear that the par value of the bonds of the utility is much in excess of the value of the property by which they were secured and that the bonds were issued to take the place of outstanding liabilities. Under these circumstances very little, if any, allowance can be made in the valuation for the item of bond discounts.

Held: Although some increase in revenues is needed under existing conditions, the increase asked for by the utility is unnecessarily large. The utility is therefore authorized to put into effect a rate of $1.05 per thousand cubic feet, net, or $1.15 gross, for fuel and illuminating gas. All other rates are to remain as at present.

This is an application under date of December 23, 1912, by the Manitowoc Gas Company for authority to increase its rates

for gas. As set forth in the application the applicant's lawful rates are as follows:

1. *Minimum bill:* 25 cts. per month.
2. *Charge for resetting meters:* 75 cts. when consumer has ordered meter removed within one year previously, on the same premises.
3. *Commercial gas:* $1.25 per 1000 cu. ft. with a discount of 25 cts. per 1,000 cu. ft. if bill is paid by the 10th of the month following that in which gas is used.
4. *Industrial gas:* $1.00 per 1,000 cu. ft. for first 10,000 cu. ft. consumed in any one month and 80 cts. per 1,000 cu. ft. for the excess.
5. *Engine gas,* for installation up to 50 h. p.: When the consumption falls below 500 cu. ft. per h. p., $1.00 per 1,000 cu. ft; when the consumption is between 500 and 2,000 cu. ft. per h. p. per month, $1.00 per 1,000 cu. ft. for the first 10,000 cu. ft. and 80 cts. for the excess; when the consumption exceeds 2,000 cu. ft. per month per h. p., $1.00 per 1,000 cu. ft. for the first 10,000 cu. ft., 80 cts. per 1,000 for the next 20,000, and 60 cts. per 1,000 for the excess.

The application sets forth at some length the reasons for asking for an increase. These reasons have been carefully considered and inasmuch as all of the material facts are referred to later in this decision, it is not considered necessary to review the reasons given, at this point.

Applicant asks for authority to put into effect the following schedule, covering the sale of gas for all uses:

Minimum bill, to remain as at present.
Resetting meters, to remain as at present.

Charge for gas.

			Gross	Net
First	1,000 cu. ft. per month	.....	$1.35	$1.25
Next	2,000 " "	.....	1.25	1.15
"	2,000 " "	.....	1.15	1.05
"	5,000 " "	.....	1.10	1.00
"	10,000 " "	.....	1.00	.90
"	10,000 " "	.....	.90	.80
All over	30,000 " "	.....	.70	.60

Discount, a discount of 10 cts. per 1000 cu. ft. to be allowed to consumers who pay their bills on or before the 10th day of the month following the month in which the gas was consumed.

In addition to asking for a schedule of rates as outlined above, the applicant asked for authority to put in effect from

January 1, 1913, a schedule of rates similar in form to the schedule shown, but somewhat lower, which schedule should be temporary, pending the decision of the Commission upon the schedule shown above. The Commission did not authorize the adoption of the temporary schedule asked for and the matter before it in the present case is the schedule of rates which the applicant seeks to have authorized as permanent rates.

Hearing in this matter was held at Milwaukee, August 26, 1913. Appearances were: For the Manitowoc Gas Company, *A. L. Nash* and *R. C. Douglas*, and for the city of Manitowoc, *H. F. Kelly*.

Relatively little in the way of testimony was introduced at the hearing, the attitude of the applicant being that the necessity for an increase at least equal to that asked for in the application was so clear that evidence to substantiate its contentions was unnecessary. So far as the testimony introduced bears upon the issues of this case, it has been carefully considered.

Both the applicant and the city submitted briefs which have been carefully studied in connection with the decision of the case, and reference will be made later to the material portions of them.

Something of the history of the rates which have been charged by the applicant should probably be shown here, as it has a bearing upon the extent to which the business has been developed and upon the causes which have led the utility to make application for an increase at this time.

The rates of the Manitowoc Gas Company were first filed with the Commission on August 27, 1907. On October 4, 1907, an amendment was filed, establishing a uniform minimum charge of 25 cts. per month.

On September 28, 1908, the utility filed with the Commission an application for authority to equalize rates. As indicated in this application, the rates in effect on April 1, 1907, were as follows:

Illuminating gas—Gross $1.50, net $1.25.
Fuel gas—Gross $1.25, net $1.00.
Industrial gas—$1.00 to 80 cts.
Power gas—$1.00 to 60 cts.

The company asked for authority to put into effect the following schedule for gas for illuminating and fuel purposes:

Service charge—25 cts. per month, and a rate for gas of $1.25 gross and $1.00 net.

In its opinion (1908, 3 W. R. C. R. 163—178) the Commission suggested a schedule more nearly in line with the cost of the service than that asked for by the company, but concluded that the schedule asked for should be authorized as a temporary rate.

On June 29, 1909, the Manitowoc Gas Company filed an amendment to its rates for fuel and illuminating gas, making gross rate for both $1.25 per 1,000 cu. ft., with a discount of 20 cts. for prompt payment, making the net rate $1.05 per 1,000 cu. ft. At the same time the company dropped its service charge of 25 cts. per month and filed a minimum bill of 25 cts. per month. These amendments were authorized by the Commission, to take effect July 1, 1909.

On July 1, 1909, the utility withdrew the above mentioned schedule and proposed the following schedule, which was authorized:

Minimum monthly bill—25 cts. Where 400 cu. ft. or less are used per month, $1.50 gross per 1,000 cu. ft., $1.25 net. If more than 400 cu. ft. are used, $1.25 per 1,000 cu. ft. gross, and $1.05 net.

The next amendment to the general schedule became effective September 1, 1911. Under the terms of this amendment the schedule for fuel and illuminating gas became as follows:

Minimum monthly bill, 25 cts. $1.50 gross per 1,000 cu. ft., and $1.25 net when the consumption is less than 400 cu. ft. per month.

$1.25 gross and $1.00 net, when the consumption is more than 400 cu. ft. per month.

This was still further amended as of November 1, 1911, so that the gross rate of $1.25 and the net rate of $1.00 applied to all consumption, regardless of the amount of gas used.

All of these amendments effecting successive reductions in gas rates were made voluntarily by the utility, apparently in the hope that there would be a resulting development of the

business. The following statement of the number of consumers and the amount of gas sold shows the extent to which the business was actually developed:

Year.	No. of consumers.	M cu. ft. sold.
1909	1,809	36,341.5
1910	1,929	37,502.8
1911	2,017	40,950.8
1912	2,087	41,653.5
1913	2,152	41,967.1

It will be noted that there has been a rather steady increase in the number of consumers, but that the amount of gas sold, after increasing rather rapidly for a few years, increased very little during the past year. The amount of gas sold per consumer during this period varied from 19,440 cu. ft. in 1910 to 20,300 in 1911. Both the number of consumers and the sales per consumer compare very favorably with the development reached by other gas utilities in the state which are operating under conditions sufficiently similar to those which prevail at Manitowoc to be comparable. From this it seems probable that whatever the effect of the reductions of rates may have been, it can hardly be expected that anything more than a gradual, normal development of the business will be experienced in the future. This brings us to a consideration of the issues involved in this case.

VALUATION.

A valuation of the physical property of the utility was made by the Commission, as of January 1, 1913. Inasmuch as the financial report for the year ending June 30, 1913, is used as a basis for most of the computations in this case, a valuation of the physical property as of January 1, 1913, may be used as indicative of the average physical value for the year. Following is a summary of that valuation:

Classification.	Cost new.	Present value.
Land	$6,500	$6,500
Transmission and distribution	112,412	97,498
Bldgs. and misc. structures	10,492	8,631
Plant equipment	35,467	29,078
General equipment	7,553	6,043
Total	$172,424	$147,750
Add 15 per cent*	25,864	22,162
Total	$198,288	$169,912
Paving	8,052	7,247
Total	$206,340	$177,159
Material and supplies	7,168	7,048
Total	$213,508	184,207
Non-operating	1,200	500
Total	$214,708	$184,707

* 15 per cent for interest during construction, superintendence, engineering, etc.

It appears that none of the paving has actually been cut through by the utility in laying pipes. With the exclusion of this item and the item of non-operating property, the cost new is $205,456, and the present value $176,960.

In the testimony which was introduced and in the brief which was submitted on its behalf, the utility assumed a rather unusual attitude, that although it considered the value of its physical property to be very much in excess of the amount determined by the Commission, the increase asked for in this case would be required even on the basis of a lower valuation than the utility is willing to accept as final. Although little testimony bearing upon the question of valuation was introduced, the brief which was submitted enumerated the amounts claimed for various elements. In presenting this the utility appears to have taken the position that somewhat greater additions to the physical value could be substantiated by the introduction of testimony, but that it considered the amounts set forth in the brief as indicative of the minimum valuation which should be established for the purposes of this case. Following is a statement of the elements and amounts discussed in the brief as constituting additions which should be made to the value of the physical property as determined by the Commission's engineers:

Materials and supplies	$2,061.00
Services	5,050.00
Distribution system and misc.	932.00
Engineering, supt., int. during construction	15,459.00
Piecemeal construction	13,327.00
Contractors profit 7½ per cent	16,525.00
Bond discount	27,378.00
Working capital	9,000.00
Preliminary investigation	1,000.00
Securing franchises	1,500.00
Incorporating and bond expense	1,000.00
Going value	130,832.00
Total	$224,064.00

The nature and extent of these additions are such that it will probably be best to discuss each of the items for which additions are claimed. Some of the amounts asked for are so unusual as to appear to furnish some basis for the contention of the city that "the method evidently has been to fine-comb the cases for every element of value ever allowed by any court or commission; take each of these elements, pad it up, round it out, throw in some for good measure, and add the results to the staff's figures." Taking up the various elements in detail, we find the following facts:

Materials and supplies: This item was placed at $7,168, cost new, and $7,048, present value, in the engineers' inventory. According to the company's brief a statement of $7,136, submitted in February, 1913, as the value of materials and supplies, did not include $984 for materials at the gas works and certain other items, amounting in all to something over $2,000. This includes a correction of about $1,200 in the coke stock. A letter from the company, dated March 20, 1913, purported to give the value of stores and supplies as of March 1, 1913. If the stores and supplies were greater on March 1 than on January 1, this was never called to the attention of the Commission until the company's brief was filed. It appears that the supplies on hand January 1 were greater than the amount shown in the valuation. It should be noted, however, that the company's balance sheet as of June 30, 1913, shows the value of materials and supplies to be only $6,493.72. Although the value of materials and supplies as of January 1, 1913, may have been more than the amount included in the Commission's valuation, the amount included therein appears to make reasonable provision for this item in view of the fluctuations in the item.

Services: The company's contention that about $5,050 should be added to the value of services has been carefully reviewed and it does not seem that any increase should be made in the Commission's valuation of this item. The Commission's allowances for the cost of services fully cover all costs shown by the company's records. The only basis on which it seems that the company can attempt to support its claim to a higher value than that placed upon this item by the staff is by an apportionment to this construction of a part of the general expenses of construction which should be covered by the allowance made specifically for such expense.

Distribution system and miscellaneous: The company claims that omissions in the Commission's valuation total $932, including certain mains and a number of miscellaneous items. These have been checked over and found to have been included in the valuation as prepared by the Commission.

Engineering, etc., during construction: Under this head may be considered engineering, superintendence, and interest during construction, contractor's profit, cost of preliminary investigation, cost of securing franchises, and incorporation and bond expense. The addition claimed by the company for these items totals $35,484. It is believed that the 15 per cent allowance for various overhead expenses during construction is all that should be made to cover these expenses, with the exception of an allowance for contractor's profit, and the unit prices used in valuing the property include all the allowance which should be made for this item.

Piecemeal construction: For this item the company claims an added value of $13,327. This claim has also been carefully examined and we see no reason for adding to the unit prices used in the valuation of physical property because of this item.

Bond discount: For this the company claims an added value of $27,378. According to the last report of the utility the date of issue of the bonds was June 1, 1907, and the date of maturity is June 1, 1924. The total amount of bonds authorized is $300,000 par value, of which bonds with a par value of $241,000 are outstanding. The total amount realized from the sale of these bonds, according to the report, was $205,277.50. The interest rate is 5 per cent.

The Commission has held that reasonable and necessary bond discounts are an element to be considered in arriving at the

value of a public utility property for rate-making purposes. Some of the facts to be considered in deciding when bond discounts are reasonable and necessary are the interest rate at which the bonds are issued, the relation of the par value of the bonds to the value of the property against which they are issued, and whether the bonds are an original issue to secure money to start utility operations or a refunding issue.

In this case it is clear that the par value of the bonds which were issued is much in excess of the value of the property by which they were secured. The effect of this discrepancy upon the discounts at which bonds were sold is not fully shown, but it seems only reasonable to suppose that the circumstances mentioned bore some relation to the extent of the discount. Also it is doubtless true that, under conditions identical in every other respect, a different rate of interest would have resulted in a different discount. The financial history of the plant, prior to the bond issue of June 1, 1907, is not in the record in this case, but it seems clear that, no matter what the nature of the actual transactions, the new bonds took the place of liabilities of the plant, which in some form had been outstanding previously. Under all these circumstances, it seems that very little if any allowance should be made in our valuation of the property for the item of discounts on bonds.

Working capital: The utility claims an allowance of $9,000 for this item. The exact amount of working capital which should be included is difficult to determine, but we believe that $6,000 is adequate for the purposes of this case.

Going value: The amount claimed by the company for this item is $130,832. We fail to see how such a claim can be supported. Computations of the losses which have been borne by the present company have been made somewhat difficult because of the fact that the amount paid for the property in 1907 is not entirely clear.

If the additions reported by the company since the acquisition of the property are deducted from the valuation of the physical property as made by the Commission for January 1, 1913, and a computation of cumulative gains or losses since 1907 is made, starting with this basis, we find that, on a 6 per cent interest basis, the cumulative gains amounted on June 30, 1913, to $22,799, and on a 7 per cent interest basis, to $10,180.

If the computations are based upon an initial value of $168,092, which, as nearly as the records in this case show, was the cost of the plant in 1907, the accumulated gains on a 6 per cent basis amount to $2,552, and on a 7 per cent basis the accumulated losses were $12,235. The practice of the utility appears to have been to charge all promotion of business expenses to construction, which has made the net earnings for each year appear greater than they would have been if accounts had been kept in compliance with the Commission's classification. This has tended to an overstatement of actual accumulated gains and an understatement of losses. It is clear, however, that no such going value as that claimed by the company can be substantiated.

It may not be necessary in this case to make a final statement of the value of the property. It appears to us to be something less than $200,000. For the purpose of our interest computations we will use $200,000 as a basis, as representing the upper limit of the value of the property, the actual value of which is probably $3,000 or $4,000 less.

Income account: Following is a statement of earnings and operating expenses of the utility for the past two fiscal years as reported by the utility:

	1912	1913
Earnings from gas	$42,032.56	$42,059.06
Earnings from residuals	16,827.80	19,148.09
Miscellaneous operating revenue	7.50	7.50
Non-operating revenue	1,556.26	1,365.90
Total revenue	$60,424.12	$62,580.55
Total expenses excluding interest and depreciation	42,827.54	44,545.55
Available for interest and depreciation	$17,596.58	$18,035.00

It would appear at first sight that the utility has been earning enough to provide for depreciation and a reasonable return on the investment. The utility has followed certain accounting practices, however, which have made its gross income appear greater than it actually was. It seems to have been the practice of the company to charge all promotion of business expenses to construction instead of treating them as operating expenses, as provided by the Commission's classification. These expenses amounted to $2,033.23 in 1912 and to $2,400.02 in 1913. In

1913 the company also charged against construction, general expenses to the amount of $2,730. No objection can be offered to charging a reasonable amount of general expenses to construction, but the amount so charged by the company during 1913 seems unnecessarily large. However, it does not seem reasonable to go to the other extreme suggested by the company in connection with this case, and charge all of the general expenses against operation. Promotion of business expenses should be charged against operation, but it seems that $2,400.02, the amount incurred during the last year, is an unreasonably large allowance. Gas sales were increased only 313,600 cu. ft. during the year, although seventy consumers were added. An allowance of $1,000 per year in operating expenses to cover the costs of promoting business seems to be all that should reasonably be made. Of the general expenses charged to construction during the past year, about $1,500 should be transferred to operating expenses. That is, the bookkeeping methods followed by the utility have resulted in charging about $2,500 less to operation during the past year than should have been so charged in accordance with our classification of accounts. The gross earnings, then, with the addition of $2,500 to operating expenses, are $2,500 less than reported, or $15,535.

The amount available for a return on property will, of course, be to some extent dependent upon the amount which should be reserved to provide for depreciation. The attitude of the company with regard to depreciation is a rather unusual one. Its officials are somewhat inclined to question the necessity of any provision for depreciation, beyond the making of ordinary repairs. Whether this attitude is due in any degree to the fact that the necessity of providing for depreciation lessens the apparent gross earnings, is a matter which need not be determined here. In a letter written to the Commission under date of October 25, 1913, the president of the company suggests an allowance of $2,500 per year for depreciation. The amount which should be set aside to provide for depreciation will depend to some extent on the nature of the items handled by the company as "current repairs," under the head of "Maintenance." An examination of the maintenance charges reported does not show that the policy of the company with regard to these has been such as to enable it to dispense, at least to any considerable ex-

tent, with a reserve to cover depreciation. It is believed that a fair annual reservation is $4,000. Computed strictly upon a sinking fund basis a somewhat smaller annual reservation might suffice, but an allowance of $4,000 per year seems only fair.

With an annual provision for depreciation amounting to $4,000, the amount available for interest and profits would be $11,535 on the basis of the adjusted income account for the past year. Upon a valuation of $200,000 this would be equivalent to a return of a little less than 5.8 per cent, and on a valuation of $196,000 to a return of 5.9 per cent. In order to obtain a 6 per cent return on the valuations mentioned, additional earnings of $465 and $225, respectively, would be required. To obtain a 7 per cent return the required increases would be, respectively, $2,465 and $2,185 per year.

This brings up the question of the nature of the adjustments which should be made if the utility is to be permitted to have certain increases. A tentative apportionment of expenses, with interest, for the purposes of these computations, upon an assumed valuation of $200,000 shows that with interest at 6 per cent consumer expenses are $8,719.18, and output expenses are $33,812.38. On a 7 per cent interest basis these expenses are $9,319.18 and $35,212.38, respectively. Following is a cost curve resulting from the above mentioned apportionment:

6 PER CENT BASIS.

Cu. ft. consumed per mo.	Consumer cost per consumer per month.	Output cost $0.8056 per M.	Total cost.	Cost per M. cu. ft.
1,000	$0.3427	$0.8056	$1.1483	1.1483
2,000	"	1.6112	1.9539	.9769
3,000	"	2.4168	2.7595	.9198
4,000	"	3.2224	3.5651	.8912
5,000	"	4.0280	4.3707	.8741
6,000	"	4.8336	5.1763	.8627
8,000	"	6.4448	6.7875	.8484
10,000	"	8.0560	8.3987	.8399
15,000	"	12.0840	12.4267	.8284
25,000	"	20.1400	20.4827	.8193
50,000	"	40.2800	40.6227	.8124
100,000	"	80.5600	80.9027	.8090

7 PER CENT BASIS.

Cu. ft. consumed per mo.	Consumer cost per consumer per month.	Output cost $0.8056 per M.	Total cost	Cost per M. cu. ft.
1,000	$0.366	$0.839	$1.205	$1.205
2,000	"	1.678	2.044	1.022
3,000	"	2.517	2.883	.961
4,000	"	3.356	3.722	.930
5,000	"	4.195	4.561	.912
6,000	"	5.034	5.400	.900
8,000	"	6.712	7.078	.884
10,000	"	8.390	8.756	.876
15,000	"	12.585	12.951	.863
25,000	"	20.975	21.341	.853
50,000	"	41.950	42.316	.846
100,000	"	83.900	84.266	.843

This shows, in general, the limits of a rate schedule constructed upon a cost basis. Below is a statement of the estimated revenues resulting from a number of rate schedules shown. The distribution of sales assumed has been taken from the records of a number of gas plants for which complete consumer analyses have been made by the Commission. It is believed that this distribution is close enough to the actual distribution of sales in Manitowoc to make its use fair for purposes of this case. If the distribution at Manitowoc is different from that assumed, it will probably be because larger amounts fall in the first increments of use which would make the actual revenue somewhat greater than that estimated. The company has reported revenue from minimum bill charges during the past year, of $410.14, which seems to include all revenue collected from the application of the minimum charge, and not merely the revenue from that portion of the minmum bill which was in excess of the charge for uses of gas which fell within the minimum. Under these circumstances, as our computations which follow apply the rates as shown to all gas sold, only a portion of the revenues reported from minimum bill charges should be considered in estimating revenues under the rates outlined.

The company also reports an earning of $448.33 from the application of the penalty for failure to pay bills promptly. The penalty in use is rather heavy and it is difficult to estimate how much revenue would be produced by the application of a less severe penalty. Refunds, corrections, etc., amount to $223.92. Without an examination of the elements which made up this item it is impossible to state how much should be deducted from apparent earnings because of it. All things considered, it seems

reasonable to expect about $400 per year as net revenue from that part of the minimum bill charges which is in excess of the charge for gas, and from the imposition of a reasonable penalty. This estimated item is shown in the following computations of probable revenue. Aside from earnings from residuals and non-operating revenues as reported for the past year, the total revenue necessary on a 6 per cent interest basis is $42,531.56, and on a 7 per cent interest basis, $44,531.56.

Probable revenues from rates as indicated.

Rate No. 1.		
1st 2 M cu. ft. per mo. at $1.05	—26,439,273 cu. ft.	$27,761.24
Next 3 M " " " 1.00	— 8,813,091 "	8,813.09
Excess " .90	— 6,714,736 "	6,043.26
Total gas sales		$42,617.59
Discounts and minimum bills		400.00
Total		$43,017.59
Rate No. 2.		
1st M cu. ft. per mo. at $1.10	—16,367,169 cu. ft.	$18,003.89
Next 4 M " " " 1.00	—18,885,195 "	18,885.20
Excess " .90	— 6,714,736 "	6,043.26
Total gas sales		$42,932.35
Discounts and minimum bills		400.00
Total		$43,332.35
Rate No. 3.		
1st 10 M cu. ft. per mo. at $1.10	—37,770,390 cu. ft.	$41,547.43
Excess " .95	— 4,196,710 "	3,986.87
Total gas sales		$45,534.30
Discounts and minimum bills		400.00
Total		$45,934.30
Rate No. 4.		
1st 10 M cu. ft. per mo. at $1.05	—37,770,390 cu. ft.	$39,658.91
Excess " .95	— 4,196,710 "	3,986.87
Total gas sales		$43,645.78
Discounts and minimum bills		400.00
Total		$44,045.78

The next summary shows the estimated revenue from the rate proposed by the company:

1st M cu. ft.	16,367,169 at $1.25 net		$20,458.96
Next 2 M "	15,108,156 " 1.15 "		17,374.38
" 2 M "	3,777,039 " 1.05 "		3,965.89
" 5 M "	2,518,026 " 1.00 "		2,518.03
" 10 M "	2,098,355 " .90 "		1,888.52
" 10 M "	839,342 " .80 "		671.47
All over 30 M "	1,259,013 " .60 "		755.41
Total gas sales			$47,632.66
Discounts and minimum bills			400.00
Total			$48,032.66

Following is a statement of the surplus or deficit, on a 6 per cent and a 7 per cent interest basis, resulting from the application of the five schedules shown above:

	6% Basis	7% Basis
Rate No. 1	$486.03	*$1,513.97**
Rate No. 2	800.79	*1,199.21**
Rate No. 3	3,402.74	1,402.74
Rate No. 4	1,514.22	*485.78**
Company's rate	5,501.10	3,501.10

* Deficit.

In all of the above computations an assumed valuation of $200,000 has been used. If a valuation of $196,000 had been used, surpluses shown above on a 6 per cent basis would have been each $240 greater than those shown, and on a 7 per cent basis surpluses would each have been $280 larger, and deficits each $280 smaller.

The deficit under the present rate, with a $200,000 valuation, is $465 on a 6 per cent basis, and $2,465 on a 7 per cent basis. With a valuation of $196,000 the deficit on a 6 per cent basis, with present rates, is $225, and on a 7 per cent basis $2,185.

From the foregoing analysis it is clear that some increase in revenue is needed but that the increase asked for by the utility is unnecessarily large. The extent of the increase which should be authorized may be to some extent dependent upon the possibility of further development of the business. If there should be a marked development of the business, either by increased general use of gas or by the sale of gas to the municipality, the development might make a readjustment of rates possible at some later time. Under conditions as they are, however, it seems clear that an increase of rates should be authorized. The permanency of such increase may be to some extent determined by the growth of the business and of the volume of sales.

THE APPLICANT, The Manitowoc Gas Company, IS THEREFORE AUTHORIZED to discontinue its present rate for fuel and illuminating gas and to substitute therefor a rate of $1.05 per 1,000 cu. ft. net, or $1.15 gross. The difference between the gross and net rates shall constitute a discount for prompt payment. The discount period shall remain as at present. All other rates shall remain as at present. This order shall take effect for the month preceding the next regular bills rendered.

IN RE APPLICATION OF THE TOMAHAWK LIGHT, TELEPHONE AND IMPROVEMENT COMPANY FOR AUTHORITY TO INCREASE RATES.

Submitted Oct. 2, 1913. Decided Dec. 5, 1913.

The Tomahawk Lt., Tel. & Improvement Co. applies for authority to put into effect for telephone service in the city of Tomahawk a schedule of rates under which subscribers whose telephones are located beyond an exchange radius of ¾ of a mile will be charged rates increased by 25 cts. per month for every ⅛ of a mile or fraction thereof of the distance beyond the exchange radius. Since the hearing the utility has filed, as an alternative plan, a proposed rule requiring subscribers to pay for all extensions in excess of 1,000 feet. A valuation of the telephone property was made and the revenues and expenses of the telephone utility were investigated. It appears that the schedule of rates might perhaps be improved by providing for two party or four party service at a rate lower than that asked for single party service but that no revision of the general rate schedule is necessary at this time.

Ordinarily a city should probably be considered as a unit for purposes of telephone service, but in the present case, inasmuch as the city limits are out of all proportion to the population of the city, it seems reasonable to restrict the exchange radius to the area occupied by persons living under city conditions, even though some persons living within the city limits are thereby excluded.

Held: The additional distance charge proposed by the utility is unnecessarily high, and the exchange radius proposed cannot be approved. The applicant is therefore authorized to amend its rate schedule by providing that its present rates shall apply only within a radius of one mile from the central office, and that for distances beyond this radius an additional charge of 25 cts. per month per one quarter mile of line or fraction thereof shall be made, such additional charge to be divided equally among all telephones on the line.

Application in this matter was filed with the Commission February 3, 1913. The applicant, the Tomahawk Light, Telephone and Improvement Company, is a public utility operating a telephone exchange and electric plant in the city of Tomahawk. As is stated in the application, the lawful rates of this utility for telephone service are $1.00 per month for residence telephones and $2.00 per month for business telephones. It is alleged in the application that because of the additional cost of maintaining telephone lines beyond the exchange radius it is

necessary to have an increased rate based upon the distance which the telephone utility is required to build beyond the exchange radius in order to reach subscribers. The schedule which the utility asks authority to put in effect for this purpose provides a charge of 25 cts. per month for every one-eighth mile or fraction thereof beyond the exchange radius. The distance included within the exchange radius is not stated in the application.

Hearing was held at Madison, on October 2, 1913. *V. E. Extron* appeared for the applicant. There was no appearance in opposition.

At the hearing it was shown that the exchange radius beyond which the applicant desires to have a distance charge put in effect is three-quarters of a mile. It was suggested at the hearing that instead of a rate based upon the distance from the central office, the utility might put into effect a rule specifying that a certain maximum length of line would be built for each new subscriber, and that in cases where a greater length of line was required the subscriber should pay the cost of the additional extension.

After the hearing the utility filed a proposed rule that subscribers should be required to pay for all extensions in excess of one thousand feet, and this rule is before us for consideration in the present proceeding.

A valuation of the property made by the Commission shows that the cost of reproduction new is about $18,235, and that the present value is about $11,586. These valuations apply to the telephone property only. According to the report of the utility for the year ended June 30, 1913, total revenues, including non-operating revenues, amounted to $5,622.61 for the telephone utility. Expenses as reported, exclusive of any allowance for depreciation or for return on property but including an allowance for bad debts and the amount paid for taxes, were $2,770.95. The total number of telephones installed, exclusive of extensions, was 317, so that the reported expense amounted to very nearly $9.00 per telephone. Practically all of these instruments were on single party lines and, so far as the record in this case shows, a good grade of service is being furnished. It has not appeared necessary to take up in detail the division of the operating expenses between the telephone and electric departments. The

methods followed by the utility appear to have been rather arbitrary, but the amount charged to the telephone department for cost of operation and maintenance does no appear to be unreasonable nor to be very much different from the amount which would probably have resulted from an accurate apportionment of expenses. A comparison of these expenses with the cost of operation of telephone exchanges furnishing similar service does not disclose the necessity of any modification of the total for purposes of this case.

With expenses and revenues as reported by the utility for the past year the amount available for interest and depreciation was $2,851.66, which is ample to cover a reasonable allowance for interest, profits and depreciation, and leave a sufficient margin to protect the company from any error arising from an incorrect apportionment of expenses. This being true, it does not appear that the utility is in need of any further revenue. The schedule of rates is perhaps not as well adjusted as it should be in that it does not take into consideration the fact that many subscribers would choose two party or four party service if such service were offered at a lower rate than that which is asked for single party service.

There appears, however, to have been no complaint on the part of subscribers regarding the present rates, and in view of the fact that the gross earnings of the utility are fully sufficient to cover all expenses, including proper allowance for interest, taxes and depreciation, it does not seem necessary at this time to revise the general rate schedule. It undoubtedly costs much more to furnish service to the individual who happens to live at a considerable distance from the central office than to the individual whose telephone is located close to the central office, if the cost of building the individual line is to be charged entirely to the subscriber to be reached by that line. Under the circumstances in this case, however, we are inclined to believe that an exchange radius of three quarters of a mile should not be approved. Ordinarily it would probably be true that a city should be considered as a unit for purposes of telephone service, but in the present case the conditions appear to be so exceptional as to justify some departure from this policy. The city limits seem to be very much out of proportion to the population of the city and to the area which is really built up. An exchange radius

of one mile would, to all intents and purposes, it appears, include all persons who are within the city. That is, it would include all persons living under city conditions, even if it did not include all those who happen to be within the very extensive city limits. Because the city limits happen to be out of all proportion to the size of the city itself it hardly seems reasonable to require the telephone utility to serve all patrons within those limits if such patrons are not really city subscribers in a practical sense.

The Commission has had some occasion to investigate the additional cost of service beyond a given exchange radius and such investigation as we have made indicates that a rate of 25 cts. per one-eighth mile is unnecessarily high. A rate of 25 cts. per month per one-quarter mile or fraction thereof appears to be not unreasonable. In the case of two party lines this 25 cts. per month should be divided between the two parties on the line.

From our investigation of this matter we conclude, therefore, that an exchange radius of one mile is reasonable in view of all the circumstances in this particular case, and that a rate of 25 cts. per month per one-quarter mile or fraction thereof for distances beyond the exchange radius is reasonable.

IT IS THEREFORE ORDERED, That the applicant in this case, the Tomahawk Light, Telephone and Improvement Company, be and hereby is authorized to amend its schedule of rates for telephone service by providing that its present rates shall apply only within a radius of one mile from the central office, and that for distances beyond this radius an additional charge of 25 cts. per month per one-quarter mile of line or fraction thereof shall be made, such additional charge to be divided equally among all telephones on the line.

IN RE APPLICATION OF THE DARLINGTON ELECTRIC LIGHT AND WATER POWER COMPANY FOR AUTHORITY TO INCREASE ITS RATES.

Submitted Feb. 21, 1912. Decided Dec. 5, 1913.

The Darlington El. Lt. & W. P. Co., since succeeded by the Darlington El. Co., applied for authority to increase its rates for electric current. A valuation was made, the revenues and expenses were investigated and the expenses were apportioned between commercial lighting and street lighting.

The city of Darlington opposes the application of the electric company upon the ground: (1) that the decision in a former proceeding (1910, 5 W. R. C. R. 397) is a bar to the present proceeding; (2) that the electric company is not a public utility; and (3) that with proper operation the present rates will be sufficient to pay all operating expenses and provide a reasonable profit. The city alleges also that the service rendered by the electric company is inadequate. The service, however, has been improved to such an extent that the complaint of the city on this point need not stand in the way of a consideration of the petition in the matter of rates.

Inasmuch as an application similar to the one involved in the present proceeding was made to the Commission in 1909 by the petitioner company and later dismissed (1910, 5 W. R. C. R. 397), it is thought advisable to restate briefly at this time the principles which underlie the revision or determination of rates for service rendered by public utilities in this and similar cases, to the end that the grounds upon which the Commission's orders are based may be more widely as well as more clearly understood. The purpose of the Public Utilities Law, which gives the Commission authority over public utilities, is to insure to communities as such and to the people who compose them adequate service at reasonable rates from those corporations or individuals whom the state or the community has by grants of special privileges commissioned to perform such services. In administering the law the Commission is compelled by economic and legal necessities to recognize the fact that investments are made in public utilities not through philanthropy but through a desire for gain and to regard the demand for a reasonable return upon the actual investment as fundamental in establishing and maintaining adequate service for the community—on the assumption, always, that ordinary intelligence and honesty have been shown in establishing the utility. Charges for the service of a public utility should, as a rule, be determined upon cost based upon a reasonable and just value of the property used and useful in giving the service. In determining this value the Commission gives heed to all factors which seem to enter into the composition of a plant and its product, but pays no attention to fancy values claimed by owners, whether they appear in the form of an over-issue of securities or in inaccurate account keeping.

Careful consideration has been given in the present case to the relation between the investment in non-operating property and the costs of operation when current is generated by the utility and when purchased for resale, and allowance is made in the appraisal for the non-operating property upon the basis of its value for stand-by or reserve purposes. Allowance is also made in the consideration of operating expenses for the amortization of the investment in the non-operating property held for stand-by service.

In determining the amount of the minimum bill for commercial lighting it is necessary to make provision for a minimum charge sufficient to cover, in addition to the cost of current used under the minimum, those operating expenses which vary with the number of consumers and which seem to have little relation to the amount of current sold, such as meter, collection and consumer's premises expenses, taxes, depreciation and interest on the utility's investment in consumers' meters and services. The order of the Commission therefore provides for a minimum charge of 50 cts. net per month for 500 watts or less of connected load, plus 5 cts. for each additional 50 watts of connected load.

Held: 1. The Darlington El. Co. is a public utility. 2. Revision of the company's rates is necessary. The company is therefore ordered to put into effect a schedule of rates determined by the Commission for incandescent lighting, street lighting and power service. This schedule is tentative and it may be necessary to revise it after a year's operation under it.

Inasmuch as an application similar to the one involved in this proceeding was made to the Commission in 1909 by the petitioner company and dismissed a year later (5 W. R. C. R. 397), it may be well at this time to restate briefly the principles which underlie the revising or determining of rates for service rendered by public utilities in this and similar cases, to the end that the grounds upon which the Commission's orders are based may be more widely as well as more clearly understood.

The title of the Public Utilities Law imports the fundamental purpose of the measure, which is to insure to communities as such, and to the people that compose them, adequate service at reasonable rates from those corporations or individuals whom the state or the community has by grants of special privileges commissioned to perform such services. These services are for the most part of a character which it would be impracticable, for individuals at least, to adequately render to themselves. The law in Wisconsin is made operative through this Commission, which is clothed with the power to hear complaints and make thorough investigations, or on its own initiative to make investigations and order changes where they appear necessary. The law is thus made flexible and immediately adaptable to any

case wherein the rendering of public service for compensation is called in question.

It is hardly necessary to say that the corporations or individuals who exercise public service functions are neither benevolent nor philanthropic institutions. The desire for gain lies at the foundation of their existence. They will continue to perform the service under ordinary conditions only so long as it is profitable for them to do so. If it becomes unprofitable their failure may take the form of gradually deteriorating service, culminating in more or less complete extinction, or it may be a more sudden lapse, but whatever form it comes in, failure to give the service must result if the returns are insufficient.

The first and chief duty of a controlling body like this Commission is to protect the community and the individuals who compose it from encroachments upon their rights or property, through excessive charges or inadequate service on the part of the public utility. That being true, it naturally follows that in the exercise of its protecting powers the Commission must have a care not to impair the ability of the utility to maintain at a just standard the character of the services and meet the steadily growing demands of the community for more and better service as time passes. In other words, it devolves upon the Commission to regard the demand for a reasonable return upon actual investment and for services rendered on the part of the utility, as fundamental in establishing and maintaining adequate service for the community—on the assumption, always, that ordinary intelligence and honesty have been shown in establishing the utility. More than the welfare of any given utility or community under consideration is involved in this. If the principle were unwisely disregarded in any one case, it would be an effectual bar to the securing of funds to develop new utilities or improve existing ones throughout the entire state.

It is not alone a condition of continuous and improving service that a public utility shall receive reasonable compensation for services rendered, it is a sound economic principle, and one which the courts of last resort of nearly all the states, as well as the United States supreme court, have repeatedly affirmed. If the principle were disregarded by any controlling body, such as the legislature, or a city, or this Commission, an appeal to the courts would bring relief to the utility thus unjustly dealt with.

If therefore there were no higher motive to guide the Commission in determining this question of reasonable compensation to utilities, the desire to have its orders effective through judicial affirmation would be sufficiently impelling.

It should be clear to every one, then, that this Commission in passing upon any utility case, whether it be a petition of the utility for permission to increase its charges, or the complaint of a private consumer or a community that rates are too high or the service inadequate, must give a large share of attention to the question of the ability of the utility to maintain its service.

As the question of the actual value of a utility plant and the cost of service bear a direct and close relation to that of charges for service, scrupulous attention is given in this and other similar cases to valuation and cost. The measure of that attention will be appreciated if the succeeding tables which separate the utility plant into its several elements of value are carefully read. While the Commission gives heed in determining values to all factors which seem to enter into the composition of a plant and its product, no attention is paid to fancy values claimed by owners, whether they appear in the form of an over-issue of securities or in inaccurate account keeping. Charges for service should as a rule be determined upon cost, based upon a reasonable and just value of the property used and useful in giving the service.

STATEMENT OF CASE.

The petition in this matter was filed with the Commission on September 30, 1911, and alleges that the Darlington Electric Light and Water Power Company is entitled to an increase in its rates for electric current for the reason that the amount now charged and received by it is inadequate and insufficient to meet the proper returns upon its investment after payment of expenses and fixed charges. The petitioner desires authority to put in effect the following schedule:

COMMERCIAL LIGHTING.

12	cts.	per	kw-hr.	for	1st	100	kw-hr.	per	month.	
10	"	"		excess	over	100	kw-hr.	and up to	200	kw-hr.
8	"	"		"		200	"	" "	300	"
6	"	"		"		300	"	" "	600	"
5	"	"		"		600	"			

Minimum charge of $1.00 per month. Additional charges of 25 cts. per glower per month for nernst lamps, and of $1.50 per month for enclosed arc lamps, the company to furnish lamp renewals of eight, ten and sixteen candle power carbon filament lamps.

POWER RATES.

Up to 100 kw-hr. per month—8 cts. per kw-hr.

For excess over	100	kw-hr. and up to	200	kw-hr.	..	7	cts.	per	kw-hr.
" "	200	" " "	300	"	..	6	"		"
" "	300	" " "	600	"	..	5	"		"
" "	600	"				4	"		"

Minimum rate of $1.00 per month per horse power or fraction thereof, for motors of one horse power or over, based on nominal rated capacity of motors. 10 per cent to be added to all bills for current if not paid on or before the tenth day of the month following that during which the charges were incurred.

STREET LIGHTING.

Arc lights $80 per lamp of 1,200 candle power per year.

For 60 candle power 6.6 ampere, 75 watts, mazda (or equivalent) lamps, $25 per lamp per year.

Incandescent lights $16 per lamp of 30 candle power per year.

The proposed charges under this head are for service supplied on an all-night moonlight schedule and for a minimum installation of 9 arc lamps and 106 incandescent lamps. It is further proposed by petitioner that if street lighting lamps of higher candle power are required by the city of Darlington a higher rate shall be paid, and that this rate shall be determined by the Commission upon application of the city of Darlington or the company. Petitioner requests that its previous petition, which was dismissed without prejudice to removal, be made a part of this petition.

The city of Darlington, in its answer filed on November 27, 1911, contends that the former proceeding (1910, 5 W. R. C. R. 397) is *res adjudicata* and a bar to this proceeding. The city denies that petitioner is a corporation organized and doing business under the laws of the state of Wisconsin and states that if it be a corporation the petitioner is not a public utility. The city alleges that no grant, directly or indirectly, was ever made from the state of Wisconsin to the petitioner to own, operate manage or control any plant or equipment within the state of Wisconsin for the production, transmission, delivery or furnishing of heat, light, water or power either directly or indirectly to or for the public, at any time or for any period. It is further claimed by the city that the rates are more or less irregular and are not charged as set forth in the petition; that with

proper operation the rates will be sufficient to pay all operating expenses and provide a reasonable profit. The city also alleges that the quality of service is poor and the plant out of repair, poorly managed and inadequate. It therefore prays that the petition be dismissed.

Hearing in this matter began at the county court house in the city of Darlington, February 21, 1912. *E. J. Henning* and *Carey & McDaniel,* by *J. K. Carey,* appeared for petitioner; *Orton & Osborne* for the city of Darlington.

The evidence presented at the hearing related principally to the expense account as shown by the utility's annual reports to the Commission, and to the valuation of the physical property made as of November 1, 1911.

Since the hearing in this case negotiations have been completed between the Darlington Electric Company, successor to the Darlington Electric Light and Water Power Company, and the Interstate Light and Power Company of Galena, Ill., whereby the former company is to purchase all electric energy to be supplied to its consumers in Darlington from the Interstate company. On January 8, 1913, a copy of this contract was filed with the Commission. As a result of this transaction, certain changes took place in the amount and kind of equipment needed in the business. This necessitated a revaluation of the property which has been made as of March 1, 1913.

Improvement in service has also been made to such an extent that the complaint of the city on this point need not stand in the way of a consideration of the petition in the matter of rates. That the plant in question is a public utility and subject to the provisions of the Public Utilities Law appears to be clear. Whether the rates applied for are reasonable is the question to be determined.

VALUATION OF PLANT.

The following table shows the summary of the physical valuation of the plant and material as of March 1, 1913:

TABLE I.

TENTATIVE VALUATION.

As of March 1, 1913.

	Commercial lighting.		Street lighting.		Total.	
	Cost new.	Present value.	Cost new.	Present value.	Cost new.	Present value.
A. Land	$428	$428	$22	$22	$450	$450
B. Transmission and distrib'n	7,631	6,016	2,506	1,314	10,137	7,330
C. Bldgs. and miscellaneous structures	646	646	34	34	680	680
D. Plant equipment	289	289	184	184	473	473
E. General equipment	551	474	45	31	596	505
Total	$9,545	$7,853	$2,791	$1,585	$12,336	$9,438
Add 12 per cent (see note)	1,145	942	335	190	1,480	1,132
Total	$10,690	$8,795	$3,126	$1,775	$13,816	$10,570
F. Paving	.....	.....	.....	.....	.....	.....
Total	$10,690	$8,795	$3,126	$1,775	$13,816	$10,570
H. Material and supplies	688	665	135	74	823	739
Total	$11,378	$9,460	$3,261	$1,849	$14,639	$11,309
J. Non-operating	.....	.....	.....	.....	22,466	14,006
Total	$11,378	$9,460	$3,261	$1,849	$37,105	$25,315

NOTE:—Addition of 12 per cent to cover engineering, superintendence, interest during construction, contingencies, etc.

According to the above, the total value of the petitioner's operating property, when reproduced new, excluding non-operating property, amounts to $14,639, with a present value of $11,309. A fair apportionment of this between the two classes of service rendered charges about 80 per cent to commercial lighting and 20 per cent to street lighting.

The non-operating property is valued at $22,465, cost new, and $14,006 present value. Careful consideration has been given to the relation between the investment in non-operating property and the costs of operation when current is generated by the utility and when purchased for resale. As careful and complete a study of the conditions involved in this case as it has been practicable for us to make indicates that the amount of non-operating property which can be recognized in the appraisal may be placed at $6,126 present value, that being its value for stand-by or reserve purposes.

INCOME ACCOUNTS.

The following table gives the utility's income accounts for three years:

TABLE II.

INCOME ACCOUNT.

Year Ending June 30.

	1912	1911	1910
OPERATING REVENUES.			
Commercial lighting	$5,357 39	$3,687 88	$4,642 78
Municipal lighting	2,331 20	1,809 90	2,233 20
Total	$7,688 59	[1]$5,497 78	$6,875 98
OPERATING EXPENSES.			
Steam power.			
Maintenance	.....	$223 91	$28 36
Labor	$535 83	380 27	296 37
Steam generated	2,015 55	1,072 72	664 78
Steam purchased and supplies	17 90	36 59	83 64
Total	$2,569 28	$1,713 49	$1,073 15
Hydraulic power.			
Labor	.....	.....	$577 00
Hydraulic power purchased (rent)	$720 00	$480 00	.....
Supplies	.....	.....	395 18
Suspense account	293 77	293 77	.....
Maintenance hydraulic works, buildings, etc.	163 58	442 68	406 09
Total	$1,177 35	$1,216 45	$1,378 27
Total power	$3,746 63	$2,929 94	$2,451 42
Distribution.			
Labor	$58 98	$208 18	$24 32
Distribution system supplies and expenses	3 10	105 00	10 78
Maintenance distribution system	94 75	337 05	35 59
Maintenance of meters	96 51	117 90	108 45
Total	$253 34	$768 13	$179 14
Consumption.			
Trimming and inspecting lamps	$15 37	$114 94	$3 38
Lamp supplies	.....	92 14	.....
Incandescent lamp renewals	320 43	104 91	165 52
Miscellaneous consump. supplies and expenses	51 08	12 56	.....
Customers' premises expenses	133 92	159 73	254 16
Maintenance of lamps	23 76	280 48	.....
Total	$544 56	$764 76	$423 06
Commercial	$482 66	$426 20	$155 12
General.			
General office salaries	$663 31	$581 98	$926 25
" " supplies and expenses	147 07	76 71	201 61
Miscellaneous general expenses	66 25	340 00	314 00
Legal expenses	303 27	.....	649 30
Maintenance	.....	.....	3 92
Total	$1,179 90	$998 69	$2,095 08
Undistributed.			
Stationery	.....	.....	$44 16
Insurance, etc.	$150 00	$123 49	93 11
Miscellaneous expenses	.....	.....	36 00
Total above expenses	$6,357 09	$6,011 21	$5,477 00

TABLE II—Concluded.

INCOME ACCOUNT.

Year Ending June 30.

	1912	1911	1910
Taxes	$174 89	$229 69	$196 35
Depreciation	.....	1,584 72	.....
Interest	[2]646 20	18 92	503 88
Total	$821 09	$1,833 33	$700 23
Grand total	$7,178 18	$7,844 54	$6,177 32
Net operating revenue	$510 41	[3]*$2,346 76*	$698 66
Non " "	321 09	329 02	56 59
Gross income	$831 50	[3]*$2,017 74*	$755 25

[1] Fire and other losses this year.
[2] $566.29 material used during past year on reconstruction—fire loss.
[3] Deficit.

The item, "Steam generated," in the preceding table was abnormally large for the year ending June 30, 1912, as compared with the same item for 1910 and 1911, or with data from other utilities similarly operated. It is reasonable to suppose that the amounts reported for maintenance cover at least some renewals to plant, and that excessive amounts so charged to operation should be considered in estimating the allowance for depreciation of the plant.

In order to determine the normal costs an income account has been prepared from reports and from information obtained from the books of the company. From these data a statement of operating expenses for the year ended March 31, 1913, has been constructed. These expenses serve as a basis for the apportionments and computations required for the determination of fair and equitable rate schedules. The statement follows:

TABLE III.

OPERATING EXPENSES.

Year Ended March 31, 1913.

OPERATING EXPENSES	
Power	
Electricity purchased	$4,743.25
Maint. transformer station, etc	19.25
Total	$4,762.50
Distribution	
Labor	$120.00
Dist. sys. sups. and exps	72.00
Maint. dist. system	120.00
Maint. meters	60.00
Total	$372.00
Consumption	
Trimming and inspecting lamps (mun.)	$36.50
Lamp supplies (mun.)	180.00
" " (incandescent)	140.00
Customer's premises expense	50.00
Maint. of lamps (mun.)	96.00
Total	$502.50
Commercial	$285.00
Total direct	$5,922.00
General	900.00
Undistributed	145.00
Total above	$6,967.00
Taxes	$128.82
Depreciation	658.75
Interest	904.72
Total above items	$1,692.29
Grand total	$8,659.29

EXPLANATION OF PRECEDING TABLE.

These expenses have been divided between commercial and street lighting service as shown in the summary below. Because the amount of power business was negligible for the period under consideration no attempt is made to treat this class of service separately.

Class of expense.	Class of service.		
	Commercial lighting.	Street lighting.	Total.
Output	$3,646 98	$1,250 75	$4,897 73
Capacity	2,983 02	778 54	3,761 56
Total	$6,630 00	$2,029 29	$8,659 29

The character of each item or group of expenses has naturally been considered in finding the division set forth above. Those expenses that are occasioned by one class of service only have been allotted entirely to that portion of the business while other expenses that are common or incidental to the supply of both classes have been apportioned on bases that furnished common divisors. The expenses have also been grouped, as the foregoing table shows, according to their dependence on the capacity of the equipment or the amount of energy furnished, and these groups have been denominated capacity and output expenses.

For commercial lighting the expenses that are dependent upon the quantity of energy furnished amount to $3,646.98. This is equivalent to 4.03 cts. per kw-hr. as the quantity of current delivered for the year to the commercial customers was about 90,000 kw-hr. But to this cost there must also be added the expenses that depend upon the capacity of the equipment or upon the demand of the commercial devices connected to the system. This added expense is equal to $2,983.02 and brings the entire cost of commercial service to $6,630.00. The average cost of all commercial energy sold is, therefore, 7.34 cts. per kw-hr. which is not much less than the maximum charge under the existing schedule. This involves nothing on account of the value placed on such equipment of the old plant as is no longer useful for furnishing service under present conditions. It is quite apparent, therefore, that if the cost of supplying service to some consumers under favorable conditions runs below the average cost, it is equally true that the cost under less favorable conditions runs higher than the average. This fact is clearly shown in the following table of decreasing costs, where we find that, if a consumer uses his active load only

one hour per day, the average cost of supplying him with service is 10.56 cts. per kw-hr.; but if the active load is used as much as four hours daily, the average cost amounts to only 5.66 cts. per kw-hr.

TABLE IV.

DECREASING COSTS.

Hours' use per day.	Capacity cost.	Output cost.	Total cost per kw-hr.
	cts.	cts.	cts.
1	6.53	4.03	10.56
1½	4.35	4.03	8.38
2	3.26	4.03	7.29
3	2.17	4.03	6.20
4	1.63	4.03	5.66
5	1.30	4.03	5.33
6	1.09	4.03	5.12
8	.81	4.03	4.84
10	.65	4.03	4.68
12	.54	4.03	4.57
15	.44	4.03	4.47
20	.33	4.03	4.36
24	.27	4.03	4.30

With a better load factor the output cost will undoubtedly be lowered considerably below 4 cts., which will further reduce the cost of service. The average yearly cost of current purchased from the Interstate Light and Power Company under the new arrangement and delivered at the Darlington plant, it appears, the average will be about 3.386 cts., assuming that the company purchases 140,000 kw-hr. With certain maintenance and labor charges added, this figure, of course, would be increased.

In view of the facts disclosed by the analysis, it appears that an allowance of about $600 per year for amortization of investment in non-operating property now being held for stand-by service will be equitable under the circumstances.

The unit operating costs shown above were determined without consideration of allowance for non-operating property or property discarded when the company ceased to generate current and began to purchase it. Reasonable allowance for this element would increase the foregoing units by a small amount.

ESTIMATE OF REVENUE

Based on a 9 Cent Maximum Rate.

There is given below an analysis and discussion of the probable effect upon the petitioner's business of a 9 ct. maximum rate per kw-hr. for commercial lighting and a corresponding increase in rates for street lighting:

ESTIMATED REVENUE FROM COMMERCIAL LIGHTING

	Annual kw-hr.	Suggested rate per kw-hr.	Total estimated revenue.
Primary	54,168	9 cts.	$4,875 12
Secondary	27,084	7 "	1,895 88
Excess	9,028	4 "	361 12
Total	90,280		$7,132 12

The total commercial revenue indicated above is about equal to the expense apportioned to this class of service.

The petitioner's application proposes to modify the existing minimum monthly electric lighting bill by increasing it from 50 cts. to $1.00 per consumer per month. It is necessary that provision be made for a minimum charge sufficient to cover those operating expenses which vary with the number of consumers and which seem to have little relation to the amount of current sold. When meter, collection and consumer's premises expenses are added to taxes, depreciation and interest on the petitioner's investment in consumers' meters and services, and when further allowance is made for cost of current likely to be used under the minimum charge, it appears that a minimum charge of $0.50 net per month for 500 watts or less of connected load, plus 5 cts. for each additional 50 watts of connected load, is not unreasonable.

Under the old street lighting contract of November 17, 1896, the city was to pay $1,400 per year. This amount covered 6 arc and 55 incandescent lights lighted until midnight, and in addition covered cost of pumping water. This amount, it appears, was apportioned to the services performed, as follows:

6 arc lights at $5.00 per month	$360.00
55 incandescent lights at $1.00 per month	660.00
Pumping	380.00
Total	$1,400.00

Under the second contract, it appears, the aggregate price paid was $2,140 for the pumping, 7 arcs, and 70 incandescent street lights. No apportionment of this total is given in the contract, but from the records and from statements of the manager it would appear that this total was to be divided as follows:

For all night service—additional per year	$500.00
7 arc lights at $60.00 per year	420.00
70 incandescents at $12.00 per year	840.00
Pumping	380.00
Total	$2,140.00

At $380.00 per year the cost of pumping would be $31.67 per month. From respondent's exhibit No. 5 it appears, however, that the monthly charge was made up as indicated below:

106 incandescent lamps, $1.00 each	$106.00
9 arcs—$5.00 each	45.00
Pumping city water	75.00
Total	$226.00

From this apportionment it appears that the $500 supposedly paid for all night lighting service, under the last contract, has been added to the price of pumping instead of lighting. An examination of the contract dated May 3, 1898, shows no provision for a fixed price per light except the provision that the city is to pay $1.00 per month for each 30 c. p. street light installed in addition to the 70 such lights provided for in the contract. The city denies that any special price is imposed for midnight as distinguished from all night service.

The cost of the street lighting service was found to be about $2,170.29. For the year ended March 31, 1913, the city actually paid to the electric company $1,920.60, although the bills called for a total of $2,292.30 for the period. This $1,920.60 includes a small allowance per month for seven 16 c. p. lamps used for lighting the fire department and pump station, as well as $50 for special lighting during fair week. On the basis of the lamps in service the regular street lighting service provided a

revenue to the electric company of about $1,870 which is $300 less than the cost of this service.

The utility is installing G. E. 220–250 volt, 60 cycle a. c. multiple compensation type lamps, with an adjustment range giving a secondary or arc circuit current of 6 amperes with 220 volts and a primary current of approximately 2.7 amperes.

The output costs of the street lighting service amounts to about 4.98 cts. per kw-hr. The capacity costs per arc amount to about $34.60, while the capacity costs per incandescent lamp total about $7.20. Adding the output and capacity costs, the total cost per year for the arc is found to vary from $80 to $100, depending upon the hours assumed operated per year. For the tungsten lamps the total cost is about $13 for 40 watt and $18 for 75 watt lamps.

At the present time there are only two power consumers connected with loads of 3 h. p. and 2 h. p., respectively. There are two consumers with moving picture arcs which might perhaps be classed with the power consumers. In view of the facts brought out in connection with this case, it appears that rates which will be equitable for power service will be about as follows: 75 cts. net per active h. p. of capacity per month, plus 4 cts. per kw-hr.

It is difficult to predict exactly what the earnings and expenses of the utility will be under the new method of operation. With the improved service the company is now supplying, and the development of a motor load, the earnings should increase at a much greater rate than in the past. The agreement with the Interstate Light and Power Company with the addition of new business will improve the load factor and decrease the cost per unit.

THE NEW RATE.

When all the facts before us are considered, it appears that the rate that should be established for commercial lighting is a charge of 9 cts. per kw-hr. for the first 40 hours' use per month of active connected load, 7 cts. per kw-hr. for the next 60 hours' use per month of the active connected load, and 4 cts. per kw-hr. for all in excess of the first 100 hours' use per month of the active connected load.

While the rates proposed are not as high as the utility has asked for, they are as high as can be given under the present circumstances. The adjustments made under the proposed schedule will make it a comparatively simple matter to further adjust the rates in the future. A fair trial of the proposed schedule will indicate closely the future rates and policy of the plant. The situation is such that it will probably be necessary for the Commission to review the facts after a period of a year's operation under the new schedule, and further adjustments may then be made.

ORDER.

IT IS ORDERED, That the Darlington Electric Company discontinue its present schedule of rates for electric light and power service, and substitute therefor the following schedule of rates:

RATES FOR INCANDESCENT LIGHTING SERVICE.

For all lighting service furnished residences and businesses hereinafter specifically referred to as classes A, B, C, etc., and passing through the same meter and measured by a meter or meters owned and installed by the company. This lighting service will include electric energy furnished for lamps and other appliances utilized for illumination purposes; motors and appliances other than lighting equipment, when motors are of 1 h. p. rated capacity or less. When the aggregate rated capacity of such appliances does not exceed 1.5 kw. they will be included in this class when used in connection with lighting equipment and when the connected load of such motors and appliances does not exceed the aggregate rated capacity of lighting equipment. Service for heating, cooking and power, when metered separately from the light service, rates as hereinafter specified.

Primary rate: 9 cts. net or 10 cts. gross per kilowatt-hour for current used equivalent to or less than the first 40 kilowatt-hours used per month per active kilowatt.

Secondary rate: 7 cts. net or 8 cts. gross per kilowatt-hour for additional current used equivalent to or less than the next 60 kilowatt-hours used per month per active kilowatt.

Excess rate: 4 cts. net or 5 cts. gross per kilowatt-hour for all current used in excess of the above 100 kilowatt-hours used per month per active kilowatt.

The active load in kilowatts shall in every case be a fixed percentage of the connected load in lamps installed upon consumer's premises.

Class A. Residences, dwellings, flats and private rooming houses. When the total connected load is equal to or less than 500 watts nominal rated capacity, 60 per cent of such total connected load shall be deemed active. When the installation exceeds 500 watts nominal rated capacity, 33⅓ per cent of such part of the total connected load over and above 500 watts shall be deemed active.

Class B. When the total connected load is equal to or less than 2½ kilowatts nominal rated capacity, 70 per cent of such total connected load shall be deemed active. When the installation exceeds 2½ kilowatts nominal rated capacity, 55 per cent of such part of the total connected load over and above 2½ kilowatts shall be deemed active; provided that lamps used exclusively in space devoted to the storing of goods shall be placed at 20 per cent active and shall not be included in the 2½ kilowatts specified above.

Class B shall consist of banks, offices, business and professional (including studios, dressmaking parlors, massage parlors, millinery and hair dressing establishments, and photograph galleries) wholesale and retail merchandise establishments, such as art stores, bakeries, barber shops (including shoe shining parlors and public baths), book stores, cigar stores, coffee and tea stores, commission stores, confectionery stores (including ice cream parlors), crockery, china, dry goods and drug stores, electrical supply houses, flower stores (including green houses), furniture and housefurnishing, gents furnishing stores (including hat stores and haberdasheries), grocery stores, hardware stores, harness shops, hay, grain, feed and coal offices and stores, jewelry stores, meat markets, millinery stores, milk depots, paint and wall paper shops, piano and music stores, picture stores, plumbing shops, saloons (including pool and billiard halls and adjoining card rooms), shoe stores and shoe repair shops, stationery stores, tailor shops (including dyers, cleaners and clothes pressing establishments), undertakers, upholsterers, and wine and liquor stores, theaters (including nick-

elodions, shooting galleries and similar amusement places), corridors and halls in office and apartment buildings upon separate meter, dance and public halls (including lodge and society rooms), restaurants (including eating places and lunch wagons), depots and public places for the conduct of railroad, street railway, express and telephone business (excluding freight warehouses), and all other consumers not herein otherwise specifically provided for.

In Class C 55 per cent of the total connected load shall be deemed active. Such class shall consist of federal and county buildings; churches and missions, hotels and clubs; factories (including small industrial establishments such as machine shops, carpenter shops, blacksmith shops, tin shops and cigar factories), closing not later than 6 p. m., private and parochial schools, grain and tobacco elevators and warehouses, freight and storage warehouses, stables and garages, private, boarding and livery, all interior lighting for the city of Darlington including schools, police and fire stations, libraries, hospitals and other city buildings.

In Class D the total connected load shall be deemed active. Such class shall consist of unmetered lighting for signs, outlines and window, contracted for upon a yearly basis.

The minimum bill for general commercial and residence lighting shall consist of a charge of 50 cts. net per month for 500 watts or less of connected load plus 5 cts. for each additional 50 watts of connected load.

RATES FOR POWER.

This service will include electric energy utilized for motive and miscellaneous lighting service, where the demand arising from such miscellaneous lighting service shall not be in excess of 20 per cent of the total simultaneous demand for lighting and power service. Stereopticons, moving picture machines, photographers' arcs and rectifiers shall be billed at the power rate when separately metered from the lighting.

For current used for electric power purposes, as measured by meters owned and installed by the company, a maximum charge of 75 cts. net per active horse power capacity per month, plus 4 cts. net or 5 cts. gross per kilowatt-hour. Active horse power

shall consist of a fixed percentage of the nominal rated capacity of motor as indicated on the manufacturer's name plate.

The following percentage of such capacity shall be deemed active:

The first 10 h. p. installed	90 per cent.
The next 20 h. p. installed	75 per cent.
The next 30 h. p. installed	60 per cent.
All over 60 h. p. installed	50 per cent.

Minimum bill shall be $1.50 net per month.

Lighting and Power.

The company shall bill all consumers at the gross rate and the difference between the gross and net rates, or one cent per kilowatt-hour, shall constitute a discount for prompt payment.

The company's present regulation in regard to last day of payment of monthly bills shall apply as the limit of time discount privilege is effective.

All bills rendered by the company to the electrical consumer shall state plainly the connected load of each consumer and the percentage which is considered active in computing the rate.

Municipal Lighting.

For all 40 watt tungsten or 32 c. p. carbon lamps, operated on a moonlight all night schedule, $13.00 per lamp per year.

For all 75 watt tungsten lamps, same schedule, $18.00 per lamp per year.

For all 6 ampere a. c. multiple enclosed arc lamps, same schedule, $80.00 per lamp per year.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF THE REFUSAL OF THE LARSEN TELEPHONE COMPANY TO EXTEND ITS SERVICE.

Decided Dec. 5, 1913.

The Commission, on its own motion, investigated the refusal of the Larsen Tel. Co. to extend its lines to certain applicants for its service unless such applicants would buy stock in the company or build the necessary extension and turn it over to the company. The costs of making the extension and rendering the service requested were ascertained.

Held: The telephone company may reasonably be expected to put in the extension if nine new subscribers can be obtained or if any number less than nine desiring service will advance to the company the amount by which the cost of the extension exceeds the amount upon which the revenues from the business acquired will yield a reasonable return, such advances to be repaid if new subscribers are obtained within a reasonable time.

It is therefore ordered: (1) that the telephone company shall extend its lines and furnish service at regular rates to the parties residing in the neighborhood of the original applicant in this case, when nine or more of such parties shall agree to take service; and (2) that in case less than nine of the parties concerned agree to take service the company shall, upon demand of a less number, extend its lines and furnish service to those desiring it upon payment by the latter of $45 for each party by which the number subscribing for service is less than nine, such advances to be repaid without interest for each new subscriber added within three years, up to the number for whom the advances were made by the original subscribers.

On October 3, 1912, A. C. Jorgensen filed a complaint against the Larsen Telephone Company, stating that the company refused to extend its lines to furnish service to a number of farmers, unless they would either buy stock in the company or build the line and turn it over to the Larsen Telephone Company. After some correspondence with the parties it became apparent that the case could not be settled informally and this investigation was undertaken.

The facts in the case appear to be about as shown in the following statement.

According to a statement filed with the Commission there are ten farmers, including A. C. Jorgensen, the original peti-

tioner in this case, who would take telephone service if the company would extend its lines as asked for in the petition. The utility contends that there would not be ten additional subscribers who could be taken on by putting in the extension in dispute. An examination of the conditions involved was made by the Commission's engineers and the estimated cost of putting in the line, on the basis of ten additional subscribers being secured, with a type of construction considered adequate to meet the needs of the situation, was found to be $597, or $59.70 per phone. Interest and depreciation, at 14 per cent, would amount to $8.36 per year per phone. With the cost of operation and maintenance at from $5.50 to $6.50 per year per phone the total cost per phone per year would be from $13.86 to $14.86. Assuming that $6.00 per year per phone will be required for operation and maintenance, the cost would be $14.36.

The situation appears to be such that the cost of the extension would be reduced very little, aside from the cost of subscriber's equipment, if less than nine or ten subscribers were to be added. If nine phones were to be installed, the cost of the extension would be about $585. Interest and depreciation would amount to $81.90. Operating expenses would probably be about $54, so that the total would be $135.90 or $15.06 per year per phone. From this it appears that the Larsen Telephone Company may reasonably be expected to put in the extension if nine new subscribers can be obtained. In case less than nine subscribers can be obtained, and those who desire service are willing to subscribe for service under such conditions, it may be a proper settlement of the matter to provide that the utility shall extend its lines to supply so many of the parties interested in this case as shall subscribe for service, provided those parties will advance to the utility the amount by which the cost of the extension exceeds the amount upon which the revenues from the business acquired will yield a reasonable return, such advances to be repaid if new subscribers are obtained within a reasonable time. An amount equal to $45 for each subscriber less than nine who subscribe for service on the extension, appears to be a reasonable advance. Three years seems to be a reasonable time within which repayments should be made as new subscribers are added.

IT IS THEREFORE ORDERED:

1. That the Larsen Telephone Company shall extend its lines as contemplated in the original petition and furnish service at regular rates to the parties residing in the neighborhood of the original applicant in this case, A. C. Jorgensen, when nine or more of such parties shall agree to take service. Sixty days from the time when nine or more of the parties shall agree to take service is considered a reasonable time to comply with this section of the order.

2. That, in case less than nine of the parties concerned shall agree to take service, the Larsen Telephone Company shall, upon demand of a less number, extend its line and furnish service to those desiring it, if the parties desiring service shall advance to the Larsen Telephone Company $45.00 for each party by which the number subscribing for service is less than nine. For each new subscriber thereafter added upon this extension, within three years, up to the number for whom the advances were made by subscribers, the Larsen Telephone Company shall promptly repay $45.00, without interest, to the parties who made the advance payments. Sixty days from the time when parties desiring service shall comply with the provisions of this section of the order, in case less than nine subscribers are obtained, is considered a reasonable time within which the Larsen Telephone Company shall carry out the requirements of this section of the order.

ALEX. LOCKE
vs.
CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Decided Dec. 5, 1913.

The petitioner alleges that the rates charged by the respondent for the transportation of scrap iron between Sheboygan Falls and Sheboygan and between Sheboygan and Milwaukee are unjustly discriminatory and excessive.

Held: Although the Commission will not undertake to adjust rates for the purpose of removing competitive disadvantages due to location nor to determine the reasonableness of rates by mere comparison with other rates, the rates complained of must be regarded as excessive when the costs of performing the service and the return on the investment are considered. The respondent is therefore ordered to put into effect a rate of 2¾ cts. per cwt. on scrap iron and other scrap metals moving between Sheboygan and Sheboygan Falls and a rate of 4 cts. per cwt. on scrap iron and other scrap metals moving between Sheboygan and Milwaukee.

The petitioner, Alex. Locke, is and has been for a long time a dealer in scrap iron and other metals. His main office is at Sheboygan but he buys extensively in the territory north and west of Sheboygan as well as in that city. The scrap is shipped first to the petitioner's yards at Sheboygan where it is sorted and then forwarded to the most favorable market.

Mr. Locke alleges that rates on scrap iron between Sheboygan Falls and Sheboygan and from Sheboygan to Milwaukee are unreasonable, unjustly discriminatory, unusually high and excessive, out of proportion to rates for the same service charged by the Chicago & North Western Railway Company along other portions of its lines, and that such rates are in excess of the reasonable value of the service. Pursuant to notice, hearing was held at which both petitioner and respondent were represented. It appeared upon the examination of tariffs, and at the hearing, that the rate on scrap from Sheboygan to Milwaukee was the same as that from Fond du Lac, Oshkosh or Appleton to Milwaukee, and that the rate was generally in effect throughout the region in which the petitioner met competition

in buying. It also appeared that the petitioner customarily shipped from point of purchase to Sheboygan where the scrap was sorted, before forwarding to destination. The sum of the rates from origin to Sheboygan and from there to Milwaukee is, of course, greater than the rate from Sheboygan to Milwaukee. Mr. Locke's competitors follow much the same procedure, though in general the shipment from purchase point to sorting point is shorter for them and less expensive. The cause of this competitive disadvantage is that of location and this Commission will not undertake to adjust rates for the sole purpose of permitting a dealer to expand his territory indefinitely and enabling him to compete with all dealers who are included therein. It does appear, however, that the rate of 5½ cts. per cwt. now in effect between Sheboygan and Milwaukee, and the rate of 3 cts. per cwt. now in effect between Sheboygan and Sheboygan Falls are excessive when the costs of performing the service and the return on investment are considered.

Although the Commission will not undertake to determine the reasonableness of rates by mere comparison with other existing rates, it would point out that the respondent, the Chicago & North Western Railway Company, has now in effect carload rates on scrap on hauls up to 150 miles for the same rate as now in effect on the 52 mile haul here under consideration.

The Commission finds that the reasonable rate on scrap moving between Sheboygan and Milwaukee is 4 cts. per cwt. and between Sheboygan and Sheboygan Falls 2¾ cts. per cwt.

NOW, THEREFORE, IT IS ORDERED: 1. That the respondent, the Chicago & North Western Railway Company, discontinue its present rate on scrap iron and other scrap metals between Sheboygan and Sheboygan Falls and substitute therefor the rate of 2¾ cts. per cwt.

2. That the respondent, the Chicago & North Western Railway Company, discontinue its present rate on scrap iron and other scrap metals between Sheboygan and Milwaukee and substitute therefor the rate of 4 cts. per cwt.

WAUKESHA LIME AND STONE CO.

vs.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY, CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY, MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY.

Decided Dec. 5, 1913.

The complainant alleges that it was overcharged for the transportation of a number of carloads of gravel and crushed stone, from Waukesha to various points, through the action of the C. & N. W. Ry. Co. in: (1) failing to absorb switching charges out of a $15 line haul earning; (2) applying the marked capacity of the car as the minimum weight for carload shipments; and (3) applying rates on file at the time, but subsequently reduced as unreasonable by the Commission, to shipments moving prior to July 27, 1912.

Held: 1. The absorption of switching charges by the C. & N. W. Ry. Co. out of line haul earnings, insofar as possible without reducing the latter below $15, is correct according to the company's tariffs and is reasonable.

2. The application of the marked capacity of the car as the minimum weight for carload shipments, though correct according to the company's tariff put into effect for carload shipments of sand and gravel in compliance with the Commission's order of June 24, 1912, 9 W. R. C. R. 347, was unreasonable and is contrary to the present practice of the respondent company and other carriers in fixing the minimum weight at 90 per cent of the marked capacity of the car, which would have been reasonable in the incident case.

3. The rates ordered by the Commission on June 24, 1912, 9 W. R. C. R. 347, were reasonable at the date of the earliest movement of carloads of stone and gravel over which the Commission has jurisdiction under the present complaint.

Refund is therefore ordered. Inasmuch, however, as the original records of the shipments in question have not been submitted, the Commission cannot undertake to compute the amount of reparation due the complainant, unless the parties submit their original records to the Commission for the determination of these amounts. The C. & N. W. Ry. Co. is accordingly authorized to refund to the complainant an amount equal to the excess of the actual charge over the proper charge, as calculated upon the basis of the above holdings, for every carload of stone and gravel moved for the complainant over the C. & N. W. Ry. from Waukesha to West Allis, Cudahy, Milwaukee, Racine, Racine Jct. or Layton Park at any time during the period beginning April 3, 1912 and ending April 2, 1913.

The complainant, the Waukesha Lime and Stone Company, is engaged in the stone, gravel, sand and lime business as pro-

ducers and wholesalers, with certain plants located at Waukesha and general offices located at Racine.

The complainant alleges the shipment of a number of cars of gravel and crushed stone, from Waukesha to various points, as set forth in exhibits attached to and made a part of the complaint on which charges were made in a manner and to an amount constituting an overcharge.

Three things are complained of:

(1) The failure of the Chicago & North Western Railway Company to absorb switching charges out of a $15 line haul earning.

(2) The application by the Chicago & North Western Railway Company of the marked capacity of the car as a minimum.

(3) The application by the Chicago & North Western Railway Company of the rates on file at that time, but subsequently reduced as unreasonable by this Commission, to shipments moving prior to July 27, 1912.

Taking up the specific items of complaint in order, it appears that the absorption of switching charges by the Chicago & North Western Railway Co., insofar as it was possible to do so out of their line haul charges without reducing them below $15, is correct, as provided in their tariffs and reasonable from the standpoint of custom and the value of the business to the carrier.

For these movements, the minimum weight of carload shipments of sand and gravel was the capacity of the car previous to the order of this Commission naming a distance tariff on these commodities, which tariff was made effective July 27, 1912, by the Chicago & North Western Railway Company. The order above referred to, 1912, 9 W. R. C. R. 87, 99, and 1912, 9 W. R. C. R. 347, 353, states that the minimum then in effect would not be changed thereby. Therefore it appears that the Chicago & North Western Railway Company was not technically in error in naming the capacity of the car as the minimum in its tariff G. F. D. 14432 effective July 27, 1912. There remains still the question of the reasonableness of the prescribed minimum. Since December 20, 1912, the Chicago & North Western Railway Company has had in effect a minimum of 90 per cent of the capacity of the car on stone and gravel moving in this state. The investigation conducted by the Commission

previous to ordering the present rates on stone and gravel disclosed such average weights as indicate the reasonableness of a minimum of 90 per cent of the marked capacity of the car. Since this minimum is reasonable and in line with the present practice of the respondent and other carriers, the Commission holds reparation is due the complainant for such amounts as it may have been charged in excess of the amounts which would have been charged had the minimum applied been the reasonable one of 90 per cent of the marked capacity of the car.

Considering, now, the third allegation of this complaint, the Commission holds that the rates promulgated under its order of June 24, 1912, and embodied in C. & N. W. G. F. D. 14432, effective July 27, 1912, were reasonable at the date of the earliest movemnt of carloads of stone and gravel over which the Commission has jurisdiction under the present complaint, and cites its decision of April 25, 1912, 9 W. R. C. R. 87, 99. Reparation is therefore due this complainant on the basis of the difference in rates as shown in C. & N. W. G. F. D. 11600–A and C. & N. W. G. F. D. 14432.

Attached to and made a part of the formal complaint in this case is a list of movements on which reparation is asked. Some of these movements occurring more than a year prior to the date of the complaint cannot be considered by this Commission as ch. 66, laws of 1913, enlarging the time in which to file claims from one year to two years did not become effective until April 16, 1913, and in the case of those movements over which the Commission has jurisdiction it cannot undertake to compute without the original records the amount of reparation due to the complainant. The order will, therefore, state only the basis of reparation, but should the parties be unable to reach an agreement in the matter, they may submit their records for the determination by the Commission of the amounts to be paid under this order.

NOW, THEREFORE, IT IS ORDERED, That the respondent Chicago & North Western Railway Company be and hereby is authorized to refund and repay to the complainant, the Waukesha Lime & Stone Company, an amount to be determined as follows: On each and every carload of stone and gravel consigned by the Waukesha Lime and Stone Company from Waukesha to any of the following stations on the Chicago & North Western

Railway, viz.: West Allis, Cudahy, Milwaukee, Racine, Racine Jct. and Layton Park, and moving from Waukesha to destination over the tracks of the Chicago & North Western Railway, at any time during the period beginning April 3, 1912, and ending April 2, 1913, charges shall be computed by applying rate and minimum as prescribed in respondent's G. F. D. 14432–A. Connecting lines switching charges shall be absorbed by the respondent Chicago & North Western Railway Company, insofar as it may be done out of line haul earnings without reducing same below $15. The difference between the charge for any car, so computed, and the charge as paid by the complainant shall constitute the amount of reparation in that case.

WAUKESHA LIME AND STONE COMPANY
vs.
MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY,
CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Decided Dec. 5, 1913.

The complainant alleges: (1) that it was overcharged on a number of shipments of slab wood, kiln wood and cordwood moving from points in Wisconsin on the "Soo" line to Waukesha and there turned over to the C. M. & St. P. Ry. Co. for delivery to the complainant at its plant on the C. M. & St. P. Ry. Co's tracks; and (2) that the local switching charge exacted by the C. M. & St. P. Ry. Co. is excessive.

The complaint with respect to the alleged overcharges appears to be based primarily upon a misunderstanding of the rule in the "Soo" line's tariff for the absorption of switching charges of connecting lines. This rule provides for the absorption by the "Soo" line at junction points on its Chicago division of "the switching charges of connecting lines, or such portion of them as will not reduce charges below $15 per car, if from or to stations on its line, or $20 per car if from or to stations on connecting lines". The term "charges", as used in the rule, evidently means the line haul charges of the issuing line and not the total charges including both the line haul charges and the switching charge.

Held: (1) The absorption of the switching charges as made by the "Soo" Ry. Co. on the cars named in the complaint was reasonable and correct insofar as may be determined from the record of weights and charges presented by the complainant. (2) The C. M. & St. P. Ry. Co's switching charge of $4 per car is reasonable.

The petition is therefore dismissed.

The complainant deals in stone, gravel, sand and lime in carload lots. It has various plants at Waukesha and its main office is located at Racine. This complaint arises from alleged overcharges on a number of shipments of slab wood, kiln wood and cordwood moving from points in Wisconsin on the "Soo" line to Waukesha and there turned over to the Chicago, Milwaukee & St. Paul Railway Company for delivery to the complainant, at its plant on the last named railway company's tracks. The practice first complained of is that of the "Soo" line, in refusing to absorb the switching charges of the second

respondent to the extent desired by the complainant, which based its claim on certain tariffs the wording of which seems open to more than one interpretation. Of the fifty-two cars on which this overcharge is alleged only ten are within the jurisdiction of this Commission, the others having moved more than one year before the filing of the complaint, which was filed previous to April 16, 1913, when ch. 66, laws of 1913, enlarging the time in which to file claims from one year to two years, became effective. During the period within which these ten cars moved the following provision was in effect in "Soo" line tariffs Nos. 14135, 14827, 15677, and 16671, substantially as here stated.

"This company will absorb at Junction points on the Chicago division of its lines, the switching charges of connecting lines, or such portion of them as will not reduce charges below $15 per car, if from or to stations on its line, or $20 per car if from or to stations on connecting lines."

The point at issue seems to rest with the interpretation of the word "charges" in this rule. The complainant maintains that the term means total charges, including in this case the line haul on the "Soo" to Waukesha and the switching charge of the "St. Paul" for delivery there. It seems quite evident, however, that the intent of this rule, when applied to movements such as are here under discussion, is that the carrier having the line haul shall contribute toward the completion of the transportation movement, that is toward the switching charges of the delivering carrier, insofar as it is able to do so out of its own line haul charges without reducing them below $15. This interpretation is in line with that made by this Commission in the case of *W. E. Morgan v. M. St. P. & S. S. M. R. Co.* 1912, 9 W. R. C. R. 165. It is held there that, in the absorption rule here applying, the issuing line's own charges are meant and that the charges as collected on the ten cars complained of and within the jurisdiction of this Commission are correct as shown by tariffs of the respondent companies.

Complainant further alleges that the switching charge of $4 per car exacted by the Chicago, Milwaukee & St. Paul Railway Company is excessive. No evidence was introduced to show that this charge was excessive when compared with the cost to the carrier of rendering the service. It does appear, however,

that the charge is greater than certain charges in effect elsewhere for similar service. It should be noted, however, that this charge is in the nature of reciprocal rate and the existence eleswhere of lower reciprocal rates is in itself no proof of the unreasonableness of this rate. In C. M. & St. P. G. F. D 4900—C, effective Feb. 28, 1912, the switching rate between industries on the St. Paul's tracks at Waukesha and between industries and connecting lines is given as $4 per car, with this exception, that the rate on stone to or from the plant of the Waukesha Lime and Stone Company is $2. Later, in supplement 13 to this tariff, effective April 17, 1913, this exception is extended to include fuel wood as well as stone. This was a voluntary reduction on the part of the Chicago, Milwaukee & St. Paul Railway Company and one based on traffic conditions affecting the "St. Paul" and the "Soo" lines and as such does not admit the unreasonableness of the previous rate.

This Commission finds the absorption of switching charges by the "Soo" line on the cars named in this complaint and the switching charge of the Chicago, Milwaukee & St. Paul Railway Company for the delivery of the cars to be reasonable and correct insofar as may be determined from the record of weights and charges presented by the complainant.

NOW, THEREFORE, IT IS ORDERED, That the petition herein be and the same is hereby dismissed.

PETER W. WOLF
vs.
CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Decided Dec. 5, 1913.

The petitioner alleges that the rate of 4 cts. per 100 lb., charged by the respondent for carload shipments of grain from Richfield to Milwaukee, is erroneous, illegal, unusual and exorbitant and asks that the rate of 3½ cts. applying over the M. St. P. & S. S. M. Ry. for shipments from Duplainville, Templeton and Colgate to Milwaukee be established, and that refund be authorized on certain shipments made by the petitioner. Since the hearing the rate on grain to Milwaukee from the points named and other nearby points competing with Richfield has been changed from 3½ cts. to 4 cts. by all railroads passing through these points, and the petitioner is satisfied with this adjustment. Only the matter of reparation, therefore, remains to be determined by the Commission.

Held: The petitioner is entitled to reparation. Refund is accordingly ordered on the basis of the 3½ ct. rate.

The petition, as amended, after the usual formal allegations, sets forth that the respondent has charged and is still charging an erroneous, illegal, unusual and exorbitant rate of 4 cts. per 100 lb. on grain in carloads from Richfield to Milwaukee; that the lawful rate on grain, carloads, from Duplainville, Templeton and Colgate to Milwaukee over the Minneapolis, St. Paul & Sault Ste. Marie Railway is 3½ cts. per 100 lb.; that such grain is hauled via Rugby Junction and through Richfield to destination and that grain in the vicinity of Richfield comes in direct competition with grain in the vicinity of the other points named; wherefore, the Commission is asked to establish a rate of 3½ cts. on grain, carloads, from Richfield to Milwaukee and to issue an order authorizing the respondent to refund to the petitioner the sum of $57.60 on nineteen shipments of grain from Richfield to Milwaukee, as listed in the petition and shown by the freight bills filed with the petition.

In answer to the petition the respondent denies that the rate complained of is erroneous, illegal, unusual and exorbitant or that respondent is required by law to meet the rates over other

lines; and alleges that the rate complained of is in and of itself reasonable and that it involves no discrimination as compared with other rates furnished by respondent at other points on its line.

Hearing was held March 11, 1913, at which *Geo. A. Schroeder* appeared for the petitioner and *J. N.* and *J. M. Davis* for the respondent.

The petitioner testified to the effect that his business is buying grain and shipping it from Richfield; that competition in buying grain in the vicinity of Richfield is stronger than it was ten or twelve years ago; that almost half of his grain comes from the locality of Colgate and Hubertus; that he could not compete with prices paid at these points when the rate from them is lower than the rate from Richfield; that he was not asking for a lower rate from Richfield than from Colgate and Hubertus, but for the same rate from each of these points; that a difference of one-half cent per 100 lb. in the buying of grain was of importance; that having competed with buyers at the points named where the lower rate was in force, he was damaged to the extent of one-half cent per 100 lb., for which he asks reparation; that his competition at points having lower rates than Richfield, with the exception of Colgate and Hubertus, was not important and that if the rates from the latter points were advanced to 4 cts. and the refund asked for was made, it would be a satisfactory adjustment of the complaint. The petitioner stated that he made no money on his grain business last year because, to a large extent, of the difference in rates of which he complains.

On behalf of the respondent a proposition to advance the rates from 3½ cts. to 4 cts. on grain from Duplainville, Pewaukee, Templeton, Sussex, Colgate and Hubertus to Milwaukee was submitted and it was stated that any refund authorized by the Commission would not be contested.

Pursuant to this proposition the rates on grain from Duplainville, Pewaukee, Templeton, Sussex, Colgate and Hubertus to Milwaukee were changed from 3½ cts. to 4 cts. by all lines passing through these points. The 4 ct. rate, which is the rate from Richfield complained of, is now lawfully in force from the other points named to Milwaukee, and this part of the complaint is therefore adjusted to the satisfaction of all

concerned, leaving the matter of reparation only to be adjusted by the Commission.

Reparation is asked on the shipments of grain from Richfield to Milwaukee listed below:

Date.	Car No.	Weight.	Rate.	Charges paid.	Rate.	Charges.	Excess charges.
2-10-12 ...	81950	86,560	4	$34.62	3.5	$30.30	$4.32
2-19-12 ...	67470	61,240	"	24.62	"	21.54	3.08
3-14-12 ...	25473	50,280	"	20.11	"	17.60	2.51
4- 9-12 ...	18850	63,900	"	25.56	"	22.37	3.19
4-24-12 ...	2372	35,010	"	14.00	"	12.25	1.75
4-24-12 ...	52940	54,000	"	21.60	"	18.90	2.70
5-10-12 ...	34598	37,000	"	14.80	"	12.95	1.85
5-24-12 ...	55841	36,140	"	14.46	"	12.65	1.81
10-11-12 ...	65140	60,380	"	24.15	"	21.13	3.02
10-15-12 ...	67854	67,140	"	26.86	"	23.50	3.36
11-14-12 ...	5292	68,340	"	27.34	"	23.92	3.42
11-22-12 ...	61475	54,000	"	21.60	"	18.90	2.70
12- 5-12 ...	83024	89,000	"	35.60	"	31.15	4.45
12- 2-12 ...	140639	77,490	"	31.00	"	27.13	3.87
2- 6-13 ...	57048	60,040	"	24.02	"	21.01	3.01
2-14-13 ...	11273	63,750	"	25.50	"	22.31	3.19
2-15-13 ...	14670	38,660	"	15.46	"	13.53	1.93
2-15-13 ...	204345	84,340	"	33.74	"	29.52	4.22
3- 7-13 ...	60758	64,380	"	25.75	"	22.53	3.22
		Total excessive charges.....					$57.60

From the foregoing it appears that the petitioner suffered a loss in the amount of $57.60, due to the fact that the rate paid on the shipment listed above was higher than the rate from points in the vicinity of Richfield. Refund of this amount will be authorized.

NOW, THEREFORE, THE RESPONDENT LINE, the Chicago, Milwaukee & St. Paul Railway Co., IS HEREBY AUTHORIZED to refund to the petitioner the sum of $57.60.

WESTBORO LUMBER COMPANY
vs.
MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY.

Decided Dec. 6, 1913.

Complaint is made that excessive charges were exacted by the M. St. P. & S. S. M. Ry. Co. for the transportation of twelve carload shipments of tanbark from Westboro to Milwaukee. The shipments in question were loaded in box cars, for the purpose of making a test for the information of the Commission in deciding the case of *Barker & Stewart Lbr. Co. v. C. M. & St. P. R. Co.* 1913, 11 W. R. C. R. 537, of the amount of tanbark that could be loaded into this class of cars. Charges were assessed on the basis of the minimum rated capacity of the cars used, although the actual weight of the shipments, when the cars were loaded to full capacity, was less than the minimum weight applied.

Held: The charges complained of should have been assessed on the basis of the rule which provides for the use of two cars for one when one car cannot be furnished to accommodate the minimum weight provided by tariff. *Barker & Stewart Lbr. Co. v. C. M. & St. P. R. Co., supra.* Refund is therefore ordered of the excess of the charges paid above what the charges would have been if based on the actual weight of the shipments.

Complaint in this case is against certain charges alleged to be excessive in the amount of $35.10 paid on twelve carload shipments of tanbark from Westboro to Milwaukee, March 1, 1913. These twelve shipments were loaded in box cars for the purpose of making a test of the amount of tanbark that could be loaded in this class of cars. The test was made for the information of the Commission in the case of *Barker & Stewart Lumber Co. v. C. M. & St. P. R. Co.* 11 W. R. C. R. 537, decided March 14, 1913. A representative of the Commission examined these shipments, weighed them at Westboro and again examined them at destination. The result of this test is fully set forth in the case referred to. In that case the Commission found that western trunk line rule No. 2820, which provides for the use of two cars for one when one car cannot be furnished to accommodate the minimum weight provided by tariff, was properly applicable to the shipments complained of. The same

rule is properly applicable to the shipments involved in the instant case. A list of these shipments, as made up from the paid freight bills submitted with the petition, is given herewith:

SHIPMENTS OF TANBARK, MARCH 1, 1913, FROM WESTBORO TO MILWAUKEE.

Car number	Actual weight.	Weight charged (minimum).	Rate, cts.	Charges paid.
104016	18,300	20,000	10	$20.00
103102	15,880	20,000	10	20.00
24498	19,160	20,000	10	20.00
29080	19,580	24,000	10	24.00
10120	16,480	20,000	10	20.00
29164	19,200	24,000	10	24.00
25206	19,980	20,000	10	20.00
31816	21,640	21,640	10	21.64
5838	19,760	20,000	10	20.00
29236	17,500	24,000	10	24.00
29184	19,600	24,000	10	24.00
29252	19,460	24,000	10	24.00
Total	226,540	261,640	.....	$261.64

From the report of the cars listed in the above table, as given in the *Barker & Stewart* case cited, it appears that each of these cars was fully loaded. It is evident, therefore, that these shipments are entitled to charges based on actual weight subject to a one-car minimum for each two cars used. As the one-car minimum is exceeded in each instance by the actual weight of any two cars in the list, the charges on all of these shipments should have been assessed on actual weight. The total actual weight of the twelve shipments is 226,540 lb. This total at 10 cts. per 100 lb., the rate applicable, makes charges of $226.54. Charges paid amount to $261.64. The difference, $35.10, is excessive and should be refunded. Inasmuch as the report of the findings in *Barker & Stewart Lbr. Co. v. C. M. & St. P. R. Co.* are applicable to the present case, it is unnecessary to discuss these details here.

NOW, THEREFORE, IT IS ORDERED, That the respondent, the Minneapolis, St. Paul & Sault Ste. Marie Railway Co., refund to the petitioner the sum of $35.10.

SOUTHERN WISCONSIN SAND AND GRAVEL COMPANY
vs.
CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Submitted Sept. 17, 1913. Decided Dec. 6, 1913.

The petitioner complains that the respondent exacted charges for the transportation of certain carload lots of sand and gravel from Janesville to points within Wisconsin which were higher than the rates prescribed by the Commission in *Waukesha Lime & Stone Co. v. C. M. & St. P. R. Co.* 1912, 9 W. R. C. R. 86 and 347, and asks for refund and such further order as the Commission may deem necessary. It appears that the present case arises out of a misunderstanding, on the part of both the petitioner and the respondent, of the facts involved, inasmuch as the orders cited above prescribe rates for shipments from Waukesha only, although the Commission recommended that the rates ordered be made effective generally on the intrastate traffic of the railway companies affected. The present case, however, being brought in good faith and upon what appear to be substantial grounds, is considered on its merits. The shipments in question moved before the order of Nov. 29, 1912, 11 W. R. C. R. 98, applying the rates prescribed for shipments of sand, gravel and crushed stone from Waukesha to similar shipments from all points on the respondent's line in Wisconsin, went into effect.

Held: Inasmuch as the rate upon which the claim for reparation is based has already been held by the Commission, 11 W. R. C. R. 98, to be unreasonable and inasmuch as the respondent gave the petitioner reasonable assurance, upon which the petitioner relied, that the lower rate of the respondent's competitor would be met, refund should be granted. The respondent is therefore ordered to refund to the petitioner all sums wrongfully collected in excess of the reasonable sum of $3,827.07 for the transportation of the carload shipments listed.

The Southern Wisconsin Sand and Gravel Company is a corporation engaged in the business of quarrying and shipping sand and gravel at Janesville, Wis. Its petition alleges that pursuant to the provisions of certain orders of the Railroad Commission of Wisconsin, entered and issued on April 25, 1912, and reaffirmed after suspension on June 24, 1912, the respondent Chicago, Milwaukee & St. Paul Railway Company was directed to discontinue its then existing higher rates on sand, gravel and crushed stone, shipped in carload lots within the state of Wisconsin, and to substitute therefor a schedule of rates prescribed in the orders. The petitioner further alleges that during the months of August, September, October and

November, 1912, it shipped large amounts of sand and gravel in carload lots from Janesville via the line of the respondent to various destinations within the state of Wisconsin and complains that upon these shipments the Chicago, Milwaukee & St. Paul Railway Company charged and collected rates higher than those in the schedule of rates prescribed by the Commission. The petitioner therefore prays that the railway company be ordered to refund to the petitioner the sum of $1,003.18, or such part thereof as may seem reasonable to the Commission, and that such further orders be made as the Commission may deem necessary and just in the premises.

The respondent, in an informal answer to the petition, states that if the facts related in the petition are correct all of the shipments moving during the months from August to November, 1912, were overcharged, as the charges made were not in accordance with the published tariffs of the respondent. The tariff upon the basis of which the respondent appeared to agree to be ready to refund is its tariff G. F. D. No. 10,853–B. However, before consenting to a final settlement of the claim, the respondent suggested that inasmuch as the only question at issue seemed to be in regard to the time and quantity of freight movement, formal proof of those facts be made by the petitioner acting under oath. Upon application, the petitioner accordingly furnished a detailed abstract of the shipments upon which refund was claimed, together with affidavit covering the statement, and these were made a part of the records in the case.

Hearing in the matter was held September 17, 1913, at the office of the Railroad Commission in Madison. *James A. Wagoner* appeared in behalf of the petitioner and *J. N. Davis* in behalf of the respondent.

At the hearing it became apparent that the facts involved had been misunderstood by both the petitioner and the respondent. The orders entered by the Commission in *Waukesha Lime and Stone Co. v. C. M. & St. P. R. Co. et al.* on April 25, 1912, and June 24, 1912 (9 W. R. C. R. 87 and 347), while establishing rates on gravel, crushed stone and sand in carloads lower than those previously effective, did not make the lower rates applicable on all traffic moving within the state on the lines of the respondents, the Chicago, Milwaukee & St. Paul Railway Company and the Chicago & North Western Railway Company, but re-

stricted the rates to traffic moving from Waukesha. However, the decision rendered June 24, 1912, recommended that the respondent companies establish the rates named for all shipments of sand, gravel and crushed stone moving between all points on their respective lines within the state of Wisconsin where lower rates were not then in effect. The pleadings of the plaintiff are, therefore, based upon a wrong assumption. The respondent, in its informal answer, likewise misconstrues its own tariff 10883 A which was issued in compliance with the order and became effective on intrastate business in Wisconsin July 14, 1912. That tariff read from Lannon and Waukesha, Wis., to stations in Wisconsin generally. At the time these shipments moved, therefore, the rates upon the basis of which the petitioner asks for reparation were not the regularly published rates. Consequently, if a refund is to be granted, a reparation order from the Commission will be necessary.

It does not appear from any of the facts brought out in the testimony, or from the circumstances surrounding the case generally, that the petitioner acted in bad faith making his application for reparation. While the original grounds upon which reparation was asked rested upon a mistake as to the facts, the respondent company, though in a much better position to know what the orders referred to contained, also appeared at first to be acting upon a similar mistake. In the absence of bad faith and because the case appears to have been brought upon substantial grounds, the Commission will consider the complaint upon its merits.

In the decision rendered June 24, 1912, (9 W. R. C. R. 347, 350–352) after a rehearing and further investigation of the rate situation surrounding the shipment of sand, gravel and crushed stone, the Commission makes the following comments:

"No facts were presented at the hearing tending to show that the distance tariff of rates on gravel and crushed stone as fixed by the Commission are unreasonably low or are not as fairly applicable from other shipping points as from Waukesha. In fact, all the circumstances surrounding this tariff are of the kind that ordinarily make for the establishment of very low rates. The value of these commodities is so low that only a short haul, under the most favorable circumstances, can be had before the transportation cost exceeds the intrinsic value of the shipment. The loading per car is exceedingly heavy, averaging about 44 tons, and thus the amount of weight in the car

paying a revenue to the railway company is much greater in proportion to the weight of the car itself than is the case with light loading commodities. The traffic is handled with a minimum of difficulty and the commodities are practically immune from liability to damage in transit. All of these factors conduce to a very low cost of transportation, and no reason has been suggested why the situation in these respects at other gravel pits and stone quarries should not be the same as that at Waukesha." * * *

"The present proceedings grew out of the complaint of a single shipper of gravel and crushed stone. The investigation of the Commission, however, was general. It covered the conditions for the state as a whole as well as for Waukesha. The rates at issue herein are also based on the facts which obtain for the intrastate traffic in general. At the rehearing other shippers besides those who are interested in the Waukesha traffic were also present and offered testimony. While there is every reason to believe that the facts are such as to have justified the Commission in making the order general, it is thought best, under the circumstances, to confine further action at this time to a recommendation that the rates herein ordered for Waukesha be made effective generally on the respondent's intrastate traffic. This leaves the matter open to further proceedings on complaint of shippers or on motion of the Commission in case the railway companies do not see fit to comply with the Commission's present recommendation."

This recommendation was followed by the Chicago & North Western Railway Company and the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, though the latter had not been a party to the case. The respondent in the instant case, the Chicago, Milwaukee & St. Paul Railway Company, appeared to be unwilling to put into effect the Commission's distance scale at once because the order also contained a provision that all commodity rates lower than the Commission's rates should be retained. A number of shippers on the respondent's lines complained informally to the Commission that the rates of the "Soo" and "North Western" lines on these commodities were lower than similar rates over the respondent's lines. While the petitioner in this case was not one of the parties making informal complaint, the petitioner appears to have brought the matter to the attention of the Chicago, Milwaukee & St. Paul Railway Company and to have been given assurance that the company would comply with the petitioner's request.

Meanwhile the Commission, upon its own motion, investigated

the question of whether the Commission's distance rates should be made effective generally on the line of the respondent company in this state, and, after due hearing, entered its order dated November 29, 1912, *In Re Investigation, on Motion of the Commission, of the Rates on Sand, Gravel and Crushed Stone on the Line of the Chicago, Milwaukee & St. Paul Ry. Co.* 11 W. R. C. R. 98, directing that the respondent make effective between all points on its line in Wisconsin the tariff of distance rates on sand, gravel and crushed stone fixed by this Commission in its orders of April 25, 1912, and June 24, 1912, *supra.* In this decision the Commission made the following reference to the reasonableness of the proposed schedules:

"Since the only obstacle to the establishment of the Commission's rates by the respondent is the existence of a comparatively small number of lower rates which can easily be dealt with by themselves, it seems inadvisable to delay longer the effectiveness of the Commission's rates on the respondent's line. These rates were made after a careful investigation which not only covered the situation at Waukesha but was made broad enough to warrant the establishment of a state-wide system of sand, gravel and crushed stone rates."

It has been repeatedly held that a refund may be granted when a competing line has a lower rate in effect and the respondent could not have participated in the traffic upon its lawfully published rate. *(Geo. T. Rowland & Son v. C. & N. W. R. Co.* 1912, 9 W. R. C. R. 163; *Waukesha Lime & Stone Co. v. M. St. P. & S. S. M. R. Co.* 1912, 9 W. R. C. R. 167.) This principle would apply in the case of shipments from Janesville to points that are also stations on the Chicago & North Western railroad. While it is undoubtedly true that the authority of a local agent to quote rates does not go beyond the rates in the regularly published tariffs of the company, nevertheless, the circumstances in the present case were such as to influence the shipper to abandon his option of shipping the commodities over the line of a competing carrier quoting a lower rate, upon a reasonable assurance that these lower rates would be met.

It is to be remembered that the reasonableness or unreasonableness of this particular rate was decided upon considerations quite apart from any of the special considerations arising out of this case. There is a well established principle that refunds may be granted upon any shipments where the rates charged have been found unreasonable on the basis of the cost of the service

and the value of the service. In the present case this Commission holds that there are other considerations in addition to the general unreasonableness of the rate which make the claims for reparation valid; that these considerations arise out of the competitive nature of some of the traffic which would have made the shipments in question unavailable to the respondent except upon the conditions that these lower rates would be met.

The respondent had expressed its willingness to put the lower rates into effect provided it be allowed to raise certain lower commodity rates. The adjustment of the lower commodity rates had been delayed so long by the respondent that a special order was entered making effective these rates which the respondent was willing to accept. No valid reasons which would defeat a reparation order in this case have, therefore, been advanced. On the other hand, there appear to be a number of reasons which justify the granting of the petition for a refund. In the first place, the rate upon which the claim for reparation is based has been held by this Commission to be unreasonable and the justice of this holding has not been denied by the respondent. In the second place, a competitive carrier upon recommendation of the Commission had already established the rates upon the basis of which refund is asked. The respondent company participated in the traffic of the petitioner upon its reasonable assurance, relied upon by the petitioner, that the competitor's lower reasonable rate would be met, a practice which is not only common but in line with good economic policy. For either of the above reasons the petition for refund should be allowed.

Expense bill No. 1341, covering a shipment from Janesville to Waupun, dated June 17, 1912, and moving before the Commission's order recommending the lower rates was entered, cannot be considered in this claim for reparation. Expense bills Nos. 584, 257, 734, and 583 covering the movement of four cars from Janesville to Watertown were charged out under a commodity rate lower than the rate contained in the Commission's order and recommendation of June 24, 1912, *supra*. The application of the distance tariff contained in the above named order would give a rate of 2.61 cts. per 100 lb., while the rate actually charged was only 2.25 cts. per 100 lb. Inasmuch as the Commission ruled that all commodity rates lower than the Commission's distance tariff should be retained, the charges upon the expense bills enumerated above are correct and proper, and cannot be considered in this case. Upon the remaining shipments

the reparation order should be made effective and should be based upon respondent's tariff G. F. D. 10883 B.

It appears upon examination of the expense bills submitted and the petitioner's detailed abstract of shipments that there are errors in the computations which can not in all cases be corrected from the evidence submitted. Nor does it seem that the total charges named have in all cases been paid by the petitioner. There are several very evident overcharges which may or may not have been adjusted, and the uncertainty on this point renders it impossible for the Commission to determine upon the exact amount of the refund.

The following is a summary of the freight bills which should properly be included in the refund:

Seventeen freight bills covering the movement of seventeen cars from Janesville to Appleton, the rate upon which should have been 3.6 cts. per 100 lb. and the total charges $613.23.

Seventy-two freight bills covering the movement of seventy-two cars from Janesville to Beaver Dam, the rate upon which should have been 3.1 cts. per 100 lb. and the total charges $1,689.23.

Twenty-eight freight bills covering the movement of twenty-eight cars from Janesville to Edgerton, the rate upon which should have been 1.5 cts. per 100 lb. and the total charges $352.38.

Five freight bills covering the movement of five cars from Janesville to Madison, the rate upon which should have been 2 cts per 100 lb. and the total charges $109.84.

Three freight bills covering the movement of three cars from Janesville to Oshkosh, the rate upon which should have been 3.6 cts. per 100 lb., and the total charges $98.64.

Twenty-nine freight bills covering the movement of twenty-nine cars from Janesville to Waupun, the rate upon which should have been 3.3 cts. per 100 lb. and the total charges $963.75.

The total corrected charges as determined above upon 154 cars are $3,827.07.

IT IS THEREFORE ORDERED, That the respondent, the Chicago, Milwaukee & St. Paul Railway Company, refund to the petitioner, the Southern Wisconsin Sand and Gravel Company, the difference between the amounts actually paid after all corrections not arising out of the wrongful application of the rate have been made and the sum of $3,827.07, the corrected charges as determined above, and as shown in the following statements:

STATEMENTS OF CARS OF GRAVEL AND SAND SHIPPED FROM JANESVILLE, WISCONSIN, VIA THE C. M. & ST. P. RY. CO, TO STATIONS AS GIVEN BELOW.

Date.			Freight bill No.	Car, No.	Destination.	Rate cts. per cwt.	Weight (actual)	Charges.
Year	Month.	Day.						
1912	8	26	2397	41954	Appleton	3.6	106,400	$38.30
"	"	26	2501	40857	"	"	110,100	39.64
"	"	26	2405	30501	"	"	104,900	37.76
"	9	17	1293	291164	"	"	109,600	39.46
"	8	1	17	40753	"	"	103,200	37.15
"	"	1	223	300553	"	"	110,100	39.64
"	"	6	627	4596	"	"	84,000	30.24
"	9	23	1900	61859	"	"	110,100	39.64
"	"	23	1854	71117	"	"	90,000	32.40
"	10	18	723	30665	"	"	95,000	34.24
"	"	18	724	40718	"	"	69,900	25.92
"	"	15	1280	40882	"	"	80,300	28.91
"	8	12	1820	21134	"	"	109,900	39.56
"	"	13	1308	30013	"	"	108,000	38.88
"	"	7	752	26416	"	"	102,600	36.94
"	"	21	2027	30197	"	"	102,400	36.86
"	11	1	61	286044	"	"	104,700	37.69
Total No. cars 17						Total charges		$613.23
191 2	9	26	3092	67910	Beaver Dam	3.1	101,900	$31.59
"	8	28	3393	20363	"	"	104,400	32.36
"	13	13	1665	70502	"	"	78,400	24.30
"	9	16	1814	21764	"	"	65,800	20.40
"	8	27	3215	30637	"	"	110,100	34.13
"	10	21	2523	25562	"	"	111,800	34.66
"	"	24	2862	2160	"	"	55,600	17.24
"	"	22	2626	20406	"	"	39,184	15.25
"	"	25	3026	284076	"	"	98,500	30.54
"	"	11	736	1278	"	"	78,600	24.37
"	"	25	3025	301427	"	"	96,200	29.82
"	9	23	2674	20610	"	"	90,000	27.90
"	10	29	3447	11596	"	"	76,700	23.78
"	"	29	3446	4234	"	"	56,300	17.45
"	11	29	129	3903	"	"	54,000	16.74
"	8	26	3077	188533	"	"	78,000	24.18
"	"	24	2918	26467	"	"	55,500	17.21
"	"	7	971	300929	"	"	110,100	34.13
"	"	15	1932	55858	"	"	92,000	28.52
"	"	20	2408	29909	"	"	107,100	33.20
"	"	22	2643	45914	"	"	81,400	25.23
"	"	14	16666	54978	"	"	75,200	23.31
"	"	4	764	28551	"	"	61,200	18.97
"	10	4	763	6065	"	"	45,100	13.98
"	"	4	762	302235	"	"	106,400	32.98
"	"	5	895	41363	"	"	108,700	33.70
"	"	11	1417	18373	"	"	41,800	12.96
"	"	11	1418	5149	"	"	59,900	18.57
"	"	10	1304	35791	"	"	84,800	26.29
"	"	10	1303	100020	"	"	84,900	26.32
"	"	8	1133	27581	"	"	63,300	19.62
"	"	12	1493	726	"	"	81,300	25.20
"	"	8	1134	99895	"	"	64,600	20.03
"	"	11	1419	77619	"	"	71,200	22.07
"	"	10	1305	27635	"	"	55,300	17.14
"	"	11	1420	14169	"	"	57,200	17.73
"	"	11	1421	280215	"	"	105,100	32.58
"	"	15	1823	182416	"	"	71,000	22.01
"	"	15	1824	369077	"	"	41,000	12.93
"	"	15	1822	27237	"	"	63,400	19.65
"	"	15	1821	21764	"	"	51,500	16.74
"	"	17	2088	461	"	"	82,100	25.45
"	"	18	2234	157530	"	"	96,300	29.85
"	"	17	2089	342517	"	"	74,500	23.10
"	"	19	2354	11907	"	"	63,100	19.56
"	"	21	2524	183255	"	"	121,400	37.63
"	"	24	2863	856511	"	"	101,600	31.50

STATEMENTS OF CARS OF GRAVEL AND SAND SHIPPED FROM JANESVILLE, WISCONSIN, VIA THE C. M. & ST. P. RY. CO. TO STATIONS AS GIVEN BELOW—Continued.

Date.			Freight bill No.	Car No.	Destination.	Rate cts. per cwt.	Weight (actual).	Charges.
Year.	Month.	Day.						
1912	10	1	481	27535	Beaver Dam.	3.1	64,600	20.03
"	9	2	532	3140	"	"	110,000	34.10
"	8	31	277	99533	"	"	53,900	16.71
"	9	22	1309	27185	"	"	61,900	19.19
"	"	24	2783	800983	"	"	89,200	27.90
"	"	23	2673	20789	"	"	43,000	13.33
"	"	25	2933	93939	"	"	83,200	25.79
"	"	25	2934	89302	"	"	71,700	22.32
"	"	27	3306	3278	"	"	46,900	14.54
"	10	5	"	27411	"	"	56,800	17.61
"	"	1	101	5125	"	"	64,700	20.06
"	"	1	100	16853	"	"	42,200	13.08
"	"	31	256	30016	"	"	97,700	30.29
"	"	31	255	44533	"	"	110,500	34.26
"	"	29	3445	149766	"	"	77,700	24.09
"	11	2	588	42012	"	"	47,600	16.74
"	"	2	587	2385	"	"	52,000	16.74
"	"	2	589	26381	"	"	45,400	14.07
"	"	2	586	19987	"	"	51,800	16.74
"	"	5	935	24703	"	"	35,200	12.40
"	"	5	936	19919	"	"	109,000	33.79
"	"	13	1847	286899	"	"	59,400	18.41
"	"	13	1890	15021	"	"	95,300	29.54
"	"	18	2495	5610	"	"	81,600	25.30
"	"	20	2907	28185				
Total No. cars 72.							Total charges	$1,689.23
1912	10	28	1699	22820	Edgerton	1.5	60,700	$9.45
"	"	25	1582	22780	"	"	56,300	9.45
"	11	12	"	6153	"	"	60,000	9.00
"	"	15	772	291953	"	"	100,000	15.00
"	9	18	903	30723	"	"	102,500	15.38
"	"	18	902	53436	"	"	107,900	16.19
"	"	18	904	54908	"	"	106,900	16.00
"	10	2	8	18991	"	"	80,000	12.04
"	"	2	6	27237	"	"	62,890	9.43
"	"	17	1033	2547	"	"	60,100	9.02
"	"	17	1035	280817	"	"	100,600	15.09
"	"	2	7	16503	"	"	40,000	6.00
"	9	2	3	104749	"	"	110,200	16.53
"	10	28	1698	31224	"	"	80,200	12.03
"	11	12	"	26603	"	"	64,700	9.71
"	"	30	1708	86045	"	"	67,600	10.14
"	"	30	1707	33093	"	"	102,900	15.44
"	"	30	1710	277943	"	"	93,100	13.97
"	"	30	1709	26639	"	"	55,800	8.37
"	"	30	1714	22891	"	"	65,200	9.78
"	"	30	1713	79658	"	"	103,800	15.57
"	12	30	1712	722000	"	"	104,400	15.66
"	"	25	1238	855668	"	"	110,700	16.61
"	"	25	1264	182071	"	"	110,200	16.53
"	"	21	1656	2152	"	"	57,300	8.60
"	"	12	948	9382	"	"	59,000	8.85
"	"	19	942	16435	"	"	106,500	15.98
"	"	19	949	38966	"	"	110,400	16.56
Total No, cars, 28,							Total charges,	$352.38
1912	9	4	433	800561	Madison	2.0	110,200	$22.04
"	"	6	1029	14856	"	"	110,100	22.02
"	"	10	1359	21170	"	"	109,500	21.90
"	"	3	228	41587	"	"	109,500	21.90
"	"	3	227	43803	"	"	109,900	21.98
Total No. cars, 5.							Total charges,	$109.84

STATEMENTS OF CARS OF GRAVEL AND SAND SHIPPED FROM JANESVILLE, WISCONSIN, VIA THE C. M. & St. P. RY. CO., TO STATIONS AS GIVEN BELOW.—Concluded.

Date, Year	Month.	Day.	Freight bill No.	Car No.	Destination.	Rate cts. per cwt.	Weight (actual)	Charges[1]
1912	8	5	589	188303	Oshkosh	3.6	86,400	$31.10
"	"	8	846	82711	"	"	107,600	38.74
"	"	5	590	2396	"	"	80,000	28.80
Total No. cars, 3.						Total charges,		$98.64
1912	8	21	2017	301159	Waupun	3.3	110,100	$36 33
"	"	21	2018	4432	"	"	88,100	29 07
"	"	29	2678	360272	"	"	109,800	36 23
"	9	5	328	74419	"	"	108,000	35 64
"	"	11	869	8323	"	"	106,400	35 11
"	"	11	870	172589	"	"	103,900	34 29
"	8	20	1953	4358	"	"	82,800	27 32
"	"	5	552	23022	"	"	86,600	28 58
"	"	5	553	5627	"	"	84,600	27 92
"	"	5	555	301162	"	"	103,200	34 06
"	9	21	1754	20557	"	"	96,700	31 91
"	12	12	1001	23001	"	"	78,800	26 00
"	11	25	2271	336442	"	"	101,500	33 50
"	12	12	1000	380067	"	"	110,500	36 47
"	9	11	870	172589	"	"	103,900	34 29
"	"	11	869	8323	"	"	106,400	35 11
"	"	21	1754	30557	"	"	96,700	31 91
"	"	23	1857	301102	"	"	101,200	33 40
"	"	5	328	74419	"	"	108,000	35 64
"	8	29	2678	360272	"	"	109,800	36 23
"	10	12	264	38458	"	"	105,700	34 88
"	"	1	51	300100	"	"	104,400	34 45
"	11	16	1505	29739	"	"	98,600	32 54
"	10	23	2022	9040	"	"	95,700	31 58
"	11	7	700	181512	"	"	110,800	36 56
"	"	11	1045	31328	"	"	104,800	34 58
"	"	1	195	145879	"	"	99,600	32 87
"	"	1	194	857096	"	"	106,100	35 07
"	"	16	1504	293021	"	"	97,800	32 21
Total No. cars, 29.						Total charges		$963 75

EUGENE HAYDEN
vs.
MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY.

Submitted Nov. 11, 1913. Decided Dec. 8, 1913.

The petitioner alleges that the service of the respondent at Apollonia, Rusk county, is inadequate by reason of the discontinuance by the respondent, on Sept. 24, 1913, of its former practice of stopping passenger trains No. 84 and No. 85 at this point. The respondent formerly maintained a station at Apollonia but closed it in 1910 and the Commission, 1911, 6 W. R. C. R. 526, refused to order a restoration of station facilities.

Held: In view of the cost of operation, the close proximity of Bruce station to Apollonia, the fact that the people have practically abandoned the station at Apollonia, and the fact that the farming community surrounding Apollonia, as shown by the petition, does not require trains to stop at this point, the Commission would not be justified in requiring two interstate trains to stop there for the purpose of accommodating the very few persons who desire to avail themselves of their services. The petition is therefore dismissed.

The petitioner is the town clerk of Big Bend, Rusk county, Wis. He alleges that the respondent railway company's line between Minneapolis, Minn., and Sault Ste. Marie, Mich., passes through the unincorporated village of Apollonia in said town of Big Bend; and that prior to September 25, 1913, passenger trains No. 84 and No. 85 passing through Apollonia at 2:02 p. m. and 12:33 p. m., respectively, made regular stops at said station, but that since said date such stops have been discontinued. He further alleges that by reason of the failure of respondent to stop said trains No. 84 and No. 85 at Apollonia, the service of respondent at said station is inadequate and that in order to furnish adequate service at said station the stopping of said trains, at least upon signal, should be restored.

Respondent railway company, answering the petition, alleges that Appollonia is located only one mile from Bruce in the state of Wisconsin, and that there is not sufficient business at said station to warrant the stopping of trains, as the service furnished at Bruce fully takes care of passengers living in that vicinity.

The matter came on for hearing on November 11, 1913. The petitioner appeared in his own behalf, and respondent by *Kenneth Taylor,* its attorney.

Prior to November 14, 1910, the respondent maintained a station at Appollonia, which was in charge of a station agent. On that day it closed the station and withdrew the agent. Nevertheless, it continued to stop trains at the station until September 24, 1913. In *Heaverin v. M. St. P. & S. S. M. R. Co.* 1911, 6 W. R. C. R. 526, the question of requiring the company to restore station facilities at Apollonia was under consideration. The Commission held that because of the decline of business at this station, the necessity for a station agent no longer existed. It then appeared that Apollonia, which had formerly been a thriving and prosperous village, had gradually declined in population until not more than 150 people remained. All business houses had been closed. The village of Bruce became the business center of the territory tributary to Apollonia. Upon the present hearing it appears that there has since been no material change in the population of Apollonia.

From the report of the cash fares paid by passengers boarding the train in question at Apollonia from May 1 to September 24, 1913, it is apparent that practically all of the people who formerly boarded trains at this point now go to the Bruce station to take the trains. Train No. 84 during the period mentioned probably did not average one passenger daily at Apollonia. One-fourth of the stops were made without receiving any passengers. Train No. 85 did not average over seven passengers monthly. Three-fourths of its stops were made without receiving any passengers.

The total revenue derived from passengers taking these trains at Apollonia did not exceed $15 per month during the period mentioned. For the year ending September 30, 1913, the total freight revenue derived from less than carload shipments going out of Apollonia station amounted to $8.64. This amount accrued in the month of July, 1913. In no other month during the year was there any revenue from less than carload shipments made from this station. The revenue derived from less than carload shipments received at this station during the same year amounted to $7.73. These figures clearly indicate that Apollonia as a station on the respondent's line is little more than a memory.

Taking into consideration the cost of operation, the close proximity of Bruce station to Apollonia, the fact that the people have practically abandoned the station at Apollonia, and the fact that the farming community surrounding Apollonia, as shown by the petition, does not require trains to stop at this point, it seems that we would not be justified and could not lawfully require two interstate trains to stop there for the purpose of accommodating the very few persons who desire to avail themselves of the same.

NOW, THEREFORE, IT IS ORDERED, That the petition herein be and the same is hereby dismissed.

KRAFT, RADTKE AND QUILLING COMPANY

vs.

CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY, CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY COMPANY.

Decided Dec. 9, 1913.

The petitioner alleges that it was overcharged for the transportation of a carload of twine from Waupun to Menomonie through the assessment of charges on a weight of 30,000 lb. instead of the correct weight of 28,000 lb. and the movement of the shipment by the most expensive route. The shipment moved from Waupun to Camp Douglas over the C. M. & St. P. Ry. and from the latter point to Augusta over the C. St. P. M. & O. Ry. The shipment should have moved as directed by the petitioner from Waupun to Burnett Jct. by way of the C. M. & St. P. Ry. and thence to Menomonie by way of the C. & N. W. Ry. and the C. St. P. M. & O. Ry. It appears that the actual weight of the shipment was 27,000 lb.

Held: The petitioner is entitled to reparation on the basis of the actual weight of the shipment and the rate over the cheaper route. Refund is therefore ordered on this basis.

The petitioner is a corporation engaged in retailing implements at Augusta, Wis. It alleges that on June 12, 1913, it shipped a carload of twine weighing 28,000 lb. from the Wisconsin state prison at Waupun to Menomonie, Wis., over the respondents' lines and was charged therefor on a weight of 30,000 lb.; that instead of routing said shipment by the shortest and cheapest route with the privilege of stopping over at Augusta for partly unloading, the respondents shipped the same by the most expensive route, and as a result there was an overcharge, which the petitioner asks that authority of the Commission be granted to the respondents to refund.

The respondent Chicago, Milwaukee & St. Paul Railway Company, answering the petition, alleges that as the particular facts are not set forth in the petition, it neither admits nor denies the same, but asks that the petitioner be required to produce strict proof thereof.

The respondent Chicago, St. Paul, Minneapolis & Omaha Railway Company alleges that the shipment mentioned in the

petition weighed but 27,000 lb. instead of 28,000 lb., as alleged. It admits that the petitioners are entitled to a refund based upon a minimum weight charge of 24,000 lb. It also admits that the petitioner is entitled to the rate in effect by the shortest route, and claims that its co-respondent, the Chicago, Milwaukee & St. Paul Railway Company, routed the shipment in question.

The claim was submitted on the pleadings, papers, documents, and correspondence on file.

The shipment moved from Waupun to Camp Douglas over the Chicago, Milwaukee & St. Paul railroad, and from the latter point to Augusta over the Chicago, St. Paul, Minneapolis & Omaha railroad. The same should have moved as directed by shipper from Waupun to Burnett Junction by way of the Chicago, Milwaukee & St. Paul railroad, and from the latter point to Menomonie by way of the Chicago & North Western and the Chicago, St. Paul, Minneapolis & Omaha railroads.

The rates applicable by the latter route is 5 cts. per cwt. from Waupun to Burnett Junction, and 20 cts per cwt. from Burnett Junction to Menomonie, making a through rate of 25 cts. per cwt. The shipment was stopped at Augusta in transit to partly unload, for which the charge is $5. The charges actually paid by the petitioner were $107. The charges assessed on the actual weight of 27,000 lb. at 25 cts. per cwt. would be $67.50, and adding thereto the charge of the transit privilege of $5, would make the total charge $72.50, or $34.50 less than was actually paid by the petitioner.

NOW, THEREFORE, IT IS ORDERED, That the Chicago, Milwaukee & St. Paul Railway Company and the Chicago, St. Paul, Minneapolis & Omaha Railway Company be and the same are hereby authorized and directed to refund to the petitioner, the Kraft, Radtke & Quilling Company, the said sum of $34.50.

CITY OF GRAND RAPIDS

vs.

GREEN BAY AND WESTERN RAILROAD COMPANY,
CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted June 24, 1913. Decided Dec. 9, 1913.

The petitioner alleges that the highway crossings formed by the intersection of Fourth avenue North and Third avenue North with the tracks of the G. B. & W. R. R. Co. and the C. & N. W. Ry. Co. in the city of Grand Rapids are dangerous.

Held: The crossings require further protection. The respondents are therefore ordered to flag all switching movements on their respective lines over the crossings and to store no cars within the platted width of the streets or within 80 ft. west of Fourth avenue North on the second spur track south of the main line. The G. B. & W. R. R. Co. is also ordered to limit the speed of trains on its main line over the crossings.

The petitioner, a municipal corporation in Wood county, Wis., alleges in substance that the highway crossings formed by the intersection of Fourth avenue North and Third avenue North with the tracks of the Green Bay & Western Railroad Company and the Chicago & North Western Railway Company in the city of Grand Rapids are dangerous to public travel. The Commission is therefore asked to require the respondents to properly safeguard these crossings.

The Green Bay & Western Railroad Company, in its answer, enters a general denial that the crossings with its line are dangerous. The Chicago & North Western Railway Company, in its answer, alleges that it has a spur track crossing the two streets in question, but that it operates only two trains a day over this track, which movements are flagged by the train crews. It denies that the crossings are unusually dangerous and asks that the complaint be dismissed.

A hearing was held on June 24, 1913, at Grand Rapids, Wis. *George P. Hambrecht* appeared for the petitioner, *R. B. Goggins* for the Green Bay & Western Railroad Company, and *C. A. Vilas* for the Chicago & North Western Railway Company.

Third Avenue North Crossing.

Third avenue North runs north and south. It is intersected at right angles by the main line of the Green Bay & Western Railroad Company, and about two hundred feet south of that crossing by a spur track of the Chicago & North Western Railway Company which leads to a paper mill east of Third avenue. The testimony shows that from the south highway approach the view of trains to the west on the spur track is obstructed by a house and the surrounding trees and shrubbery. The east view along the spur is also limited by trees and shrubs. After crossing the spur, the view to the east along the main line of the Green Bay & Western Railroad Company is obstructed by trees. From the north highway approach the view of the main line to the east is hindered by trees. After crossing the main line, the view to the east on the spur is obstructed by trees and shrubbery, but the west view is open. The limits of vision on the main line are reported by our engineer as follows:

Distance of point of observation in highway from track.	View of trains west.	View of trains east.
South 50 feet	500 feet	150 feet
" 100 "	500 "	100 "
" 200 "	400 "	100 "
" 300 "	250 "	75 "
North 50 "	⅛ mile	150 "
" 100 "	¼ "	100 "
" 200 "	400 feet	⅛ mile
" 300 "	300 "	200 feet

Third avenue North connects with roads leading into the country districts north of the city and is used extensively by farmers going to and from the city. A count taken in the interest of the petitioner shows that the combined traffic on both Fourth avenue and Third avenue from 9:20 a. m. to 4:55 p. m. amounted to 294 teams on March 1, 1913, and to 270 teams on March 8, 1913. Our engineer counted the traffic over the main line crossing at Third avenue on October 15, 1913, and during that twelve hour period there were two regular trains, four switching movements, 140 pedestrians, 25 bicycles, 44 teams and 20 automobiles using the crossing. The count made for the petioner shows the following train movements over Third avenue on the specified dates:

Date.	G. B. & W. train movements.	C. & N. W. train movements.
Feb. 7, 1913	19	2
" 8, "	10	4
" 9, "	16	8
" 10, "	10	6
" 28, "	16	.....
June 18, "	14	5
Mar. 8, "	16	4
" 10, "	13	4

Fourth Avenue North Crossing.

Fourth avenue North runs north and south and crosses the main track of the Green Bay & Western Railroad Company, the Chicago & North Western spur leading to the paper mill, and two connecting tracks between the two lines. The testimony shows that cars have been allowed to stand on the cross-over tracks in such a way as to limit the view of the main line from the south approach, and the view of the Chicago & North Western Railway Company's spur from the north approach. When no cars are on the spur tracks the view was said to be fairly open. The limits of vision on the main track of the Green Bay & Western Railroad Company, as reported by our engineer on the day of his inspection when some cars were standing on the spur track, are as follows:

Distance of point of observation in highway from track.	View of trains west.	View of trains east.
South 50 feet	1800 feet	500 feet
" 100 "	1000 "	450 "
" 200 "	400 "	400 "
" 300 "	150 "	300 "
North 50 "	3000 "	800 "
" 100 "	2000 "	500 "
" 200 "	600 "	300 "
" 300 "	700 "	400 "

Traffic over this street is very similar to that over Third avenue North. Our engineer made a count on October 15, 1913, at the main line crossing, which shows that from 6 a. m. to 6 p. m. two regular trains, four switching trains, 168 pedes-

trians, 29 bicycles, 97 teams and 15 automobiles crossed the tracks. The count of train movements taken by the petitioner's witness, the results of which are given above with reference to Third avenue, also applies to Fourth avenue. Several narrow escapes at this crossing were reported.

The superintendent of the Chicago & North Western Railway Company testified that he had issued instructions to train crews to flag all train movements over the crossings under consideration. The general manager of the Green Bay & Western Railroad Company expressed the willingness of his company to adopt a similar rule. He suggested that the obstructing trees be trimmed and that the spur tracks be kept clear of cars. He pointed out that on the main line the speed of trains is necessarily limited at these crossings on account of the proximity of the Chicago, Milwaukee & St. Paul railway crossing.

In the light of the testimony and of the report of our engineer, we are of the opinion that these crossings can be rendered reasonably safe under the existing traffic conditions by rigidly enforcing the rules that all switching movements must be flagged over the crossings, and that cars are not to be allowed to stand where they seriously obstruct the view of trains, and that the speed of trains over these crossings be limited to six miles an hour.

IT IS THEREFORE ORDERED, That the respondent Green Bay & Western Railroad Company limit the speed of trains on its main line over the crossings designated in the complaint, flag all switching movements on both the main track and the spur tracks over the crossings, and store no cars within the platted width of the streets or within eighty feet west of Fourth avenue North on the second spur track south of the main line.

IT IS FURTHER ORDERED, That the respondent Chicago & North Western Railway Company flag all switching movements on its line over the crossings designated in the complaint, and store no cars within the platted width of the streets or within eighty feet west of Fourth avenue North on the second spur track south of the main line.

IN RE REFUSAL OF THE FARMERS' UNION TELEPHONE COMPANY TO FURNISH SERVICE TO WILLIAM LEMCKE.

Decided Dec. 9, 1913.

The Commission, on its own motion, investigated the refusal of the Farmers' Union Tel. Co. to continue its service to William Lemcke at his residence near Middleton, Dane county. Mr. Lemcke made deductions from bills rendered him for service on account of materials and labor furnished by him at the time his telephone was installed. The company refused to accept the sums offered as full payment and partially discontinued its service.

The refusal of the telephone company to accept as full payment for its services a sum less than the full rate which other subscribers are required to pay for similar services was in accord with the plain duty of the company under sec. 1797m—90 of the statutes. It is the intent of this section that the payment for services rendered by a utility shall be uniform without reference to any contractual relations existing between the utility and its subscribers.

It is the duty of a public utility to establish rules and regulations having for their purpose the enforcement of prompt payment of all accounts due for services rendered. *Berend v. Wis. Tel. Co.* 1909, 4 W. R. C. R. 150.

Held: Though the telephone company was justified in discontinuing service to Mr. Lemcke upon his refusal to pay his bill in full, the company is not justified by the existence of his previous indebtedness in refusing to give him present service if he is ready and willing to give the company reasonable security for the payment of future bills. 1 Wyman on Public Service Corporations, 451.

The company is therefore ordered to restore its telephone service to Mr. Lemcke upon the tender by him of payment in advance for a reasonable period at the rates now charged, or the deposit by him with the company of a sufficient sum of money to secure the prompt payment of rentals which may become due in the future for services rendered in accordance with such rules and regulations as the company may publish and file with the Commission. Ten days is deemed a reasonable time for the formulation of such rules and their submission to the Commission.

Following an informal complaint that the Farmers' Union Telephone Company had refused to continue its service to William Lemcke, who resides near Middleton in Dane county, an investigation was ordered by the Commission on its own motion to determine the matter.

Hearings were held on August 1, and November 12, 1913. The Farmers' Union Telephone Company was represented by *Fred Schulenberg,* its president. *Mr. Lemcke* appeared in his own behalf.

It appears from the testimony that when the telephone was installed in the house of the complainant in 1911 certain materials and labor were furnished by him to provide facilities for the stringing of wires to his house. The president of the telephone company testified that it is the company's usual practice to require persons desiring service to provide the necessary poles, or properly trimmed trees, on their premises for stringing telephone wires, after which the company strings the wires and installs the instruments. The complainant insisted that the company had agreed to provide the labor and poles which he had furnished, and for this reason he made a deduction of $3 from the first year's rental bill rendered him. Notwithstanding this deduction the company continued the service for another year, at the end of which complainant again refused to pay the annual bill for service and deducted therefrom $2.70 for the poles which he claimed to have furnished. Thereupon the company discontinued his service in part by refusing him connection with telephones not on his own party line.

The company refused to accept as full payment for its services to Mr. Lemcke a sum less than the full rate which other subscribers are required to pay for similar services. This was its plain duty under sec. 1797m—90 of the statutes, which provides that:

"It shall be unlawful for any public utility to demand, charge, collect or receive from any person, firm or corporation less compensation for any service rendered or to be rendered by said public utility in consideration of the furnishing by said person, firm or corporation of any part of the facilities incident thereto, * * * ".

It is evidently the intent of the statute that the payment for services rendered by a utility shall be uniform without reference to any contractual relations between it and its subscribers. Under the circumstances, if the company is indebted to a subscriber for services rendered to it, it has no right to charge such subscriber a lower rate for that reason. Such indebtedness is an exterior matter and cannot be offset against the indebtedness

of the subscriber to the company for rentals. Should a disagreement arise as to the contractual relations involving the payment of rentals or the payment of any indebtedness owing by the company to a subscriber, the rights of the parties can be adjusted in court.

It is the duty of a public utility to establish rules and regulations having for their purpose the enforcement of prompt payment of all accounts due for services when rendered. This matter was fully considered by the Commission in the case of *Berend v. Wis. Tel. Co.* 1909, 4 W. R. C. R. 150, 159. After carefully reviewing a number of authorities upon the subject, the Commission said:

"From the authorities above quoted the following rules for the protection of a public utility against loss of operating revenues because of uncollectible accounts, and for the securing of prompt receipt of all moneys due for services performed or protection furnished, may be deduced as reasonable regulations which may be lawfully prescribed and enforced by a public utility:

"1. It may require of any patron the deposit of a reasonable sum of money as security for the prompt payment of bills when due. In determining the reasonableness of the amount thus to be deposited, the probable amount of the indebtedness that may be incurred during the month or other stated period at the end of which bills are made out and rendered, is an important factor. No more than a sum sufficient to furnish adequate security for the credit extended may be legally exacted.

"2. It may require satisfactory security to be furnished in lieu of such deposit.

"3. It may allow a discount upon bills paid on or before a stated day, or exact a penalty for failure to make payment within a certain time.

"4. For neglect or refusal on the part of any patron to comply with any of the legal rules and regulations established, it may discontinue service to such patron."

In the present case the company has not established any rule for the enforcement of prompt payment of rentals. However, in the absence of such rule it could not be compelled to furnish to a subscriber service free of charge, for that would be a violation of the statute quoted. Consequently, when a patron refuses to pay the full amount of rental at the end of the period when the rental becomes due, the company should discontinue his service. In this case the company, in the absence of any rule protecting it against loss of revenue from the refusal of patrons to meet

their obligations, discontinued complainant's service when he refused to pay the bill in full, and its act in the premises cannot be questioned.

Notwithstanding the discontinuance of the service the complainant now appears in the position of a new subscriber and asks that service be given him. The question before the Commission, therefore, is whether a telephone company has the right to refuse service on the ground that previous bills have not been fully paid. A telephone company, as has been shown, may, by establishing proper rules, require its patrons to pay in advance for a reasonable period for the desired service, and if a patron who is in arrears to the company offers payment in advance for future service, we do not think that it is consistent with its public duty for the company to refuse such service. The rule is stated in 1. Wyman on Public Service Corporations, 451, as follows:

"As one in public service may always demand prepayment, having given credit, the company must be content as other creditors must be to collect its back bills by legal means. To attempt to make such collections by refusing present service for ready money would seem to be in the face of the public duty."

In the instant case the president of the telephone company testified that the service was discontinued because the complainant deducted $2.70 from the bill rendered him in 1913 and refused to pay more than $9.30 for previous service, the full charges for which were $12.00. If the complainant was ready and willing to secure the company the full amount of $12.00 for its succeeding year's service, then, in our judgment, the previous indebtedness was not an excuse absolving the company from its duty to supply the service. The company should at once publish and file with the Commission a rule covering the subject in controversy.

IT IS THEREFORE ORDERED, That the Farmers' Union Telephone Company restore its telephone service to William Lemcke upon the tender by him of payment in advance for a reasonable period at the rates now charged, or the deposit by him with the company of a sufficient sum of money to secure the prompt payment of rentals which may become due in the future for services rendered in accordance with such rules and regulations as the company may publish and file with the Commission.

Ten days is deemed a reasonable time within which the company shall formulate and submit to this Commission such rules.

TOWN OF FITCHBURG

vs.

ILLINOIS CENTRAL RAILROAD COMPANY.

Submitted Sept. 6, 1913. Decided Dec. 11, 1913.

The petitioner alleges that the "Fergin" highway crossing over the I. C. R. R. in the town of Fitchburg, Dane county, is dangerous.

Held: The crossing requires protection. The respondent is ordered to install and maintain an electric bell, with illuminated sign, plans to be submitted for approval.

The offer of the respondent to protect the crossing by stopping all of its trains at the crossing cannot be entertained, for the reason that this method of protection would not only impair the service but would also involve much greater expense than the installation of proper safety devices.

The petitioner, a regularly organized town in Dane county, alleges in substance that the "Fergin" highway crossing located on the line of the Illinois Central Railroad Company, about one and one-fourth miles south of the station at Summit, is dangerous to public travel on account of the surrounding physical conditions. The Commission is therefore asked to require the respondent to provide adequate protection at this crossing.

The respondent, in its answer, denies that the crossing is unreasonably dangerous, and therefore asks that the complaint be dismissed.

A hearing was held on September 6, 1913, at the office of the Commission in Madison. *E. Barry* appeared for the petitioner, and *Jones & Schubring* for the respondent.

The testimony shows that at the "Fergin" crossing the highway runs east and west, and the railroad north and south. The railroad lies in a cut which was said to be from ten to twenty feet in depth, the deepest part being south of the crossing. Witnesses testified that a person driving a team cannot see a train approaching from the south until his horses are within six or eight feet of the track. The view to the north is somewhat better, but it also is badly obstructed by the banks of the cut.

The limits of vision are reported by our engineer as follows:

Point of observation in highway from track.	View south.	View north.
East 50 feet	150 feet	250 feet
" 100 "	200 "	200 "
" 200 "	500 "	600 "
" 300 "	500 "	600 "
West 50 "	350 "	250 "
" 100 "	300 "	200 "
" 200 "	250 "	100 "
" 300 "	200 "	100 "

A schoolhouse is located about ten rods west of the track, but only one child regularly crosses to and from school. A count was taken by a witness for the petitioner for three days from 5 a. m. to about 9 p. m. with the following results:

September 1, 1913	20 vehicles
September 2, 1913	17 "
September 3, 1913	32 "

Two passenger trains and two freight trains, in each direction, are operated over this line. A number of narrow escapes from accident were described at the hearing.

Counsel for the company took the position that the crossing is not unusually dangerous in view of the fact that train movements are infrequent. He stated, however, that if further protection is deemed necessary by the Commission, the company would prefer to stop all of its trains at the crossing rather than install some protective device. Such a practice, however, except at points very near a regular stop, would seriously impair the service. If stops were made at all crossings along the line, it would be impossible to maintain a schedule that would be consistent with reasonably adequate passenger service.

This proposed method of protection would not only impair the service but would be less economical from an operating standpoint than the installation of safety devices. On the basis of the testimony of railroad officials with regard to the number of trains operated on this division, it appears that during the year there are approximately 2,608 train movements over the crossing under consideration. The actual cost of stopping and starting a passenger train under ordinary circumstances has been estimated by railway officials in their testimony before the Commission at from $0.25 to $1.00 per stop, varying with the size of the train

and other conditions. Assuming a conservative estimate of $0.30 per stop for freight and passenger trains in this case, the cost of stopping all trains at the crossing under consideration would be $782.40 per year. It is clear, therefore, that this expense for one year would far exceed the initial cost of installing a modern electric bell and light on the crossing.

From an examination of the testimony and the report of our engineer, we find that the crossing in question is unusually dangerous and that the installation of an electric bell and light is necessary to adequately safeguard the public under the existing traffic condition.

IT IS THEREFORE ORDERED, That the respondent, the Illinois Central Railroad Company, install and maintain at the "Fergin" crossing, located on its line one and one-fourth miles south of Summit in the town of Fitchburg, Dane county, Wis., an automatic electric bell with an illuminated sign for night indication, plans for track circuits to be submitted to the Commission for approval.

Ninety days is considered a sufficient time within which to comply with this order.

H. S. HUGHSON
vs.
DULUTH, SOUTH SHORE AND ATLANTIC RAILWAY COMPANY.

Submitted July 24, 1913. Decided Dec. 12, 1913.

The petitioner alleges that the train service furnished by the respondent at Winnibijou, Douglas county, is inadequate and discriminatory because of the respondent's failure to stop its Sunday excursion train at that point. The train in question is operated during the summer months from Duluth, Minn., to Bibon, Wis., and return, and stops at all stations in Wisconsin between Superior and Bibon except Winnibijou. The respondent advances as its reason for refusing to stop the train at Winnibijou the fear that the practice of stopping at this point would be detrimental to the interests of the Winnibijou Fishing Club and ultimately to its own interests.

Held: The reason given by the respondent for its refusal to render the service desired cannot be accepted. The failure of the respondent to stop its Sunday excursion train at Winnibijou, while making stops at other stations of equal or less importance, is unjustly discriminatory. The respondent is therefore ordered to arrange the future schedule of its summer Sunday excursion train between Superior and Bibon to provide a stop at Winnibijou.

The petition alleges in substance that the train service furnished by the Duluth, South Shore & Atlantic Railway Company at Winnibijou, Douglas county, is inadequate on account of the respondent's failure to stop its Sunday excursion train at that point. It further alleges that this excursion train is stopped at other stations which are similar to Winnibijou, and that this is a discriminatory practice. The Commission is therefore asked to require the respondent to stop its Sunday excursion train at Winnibijou.

No answer was filed by the respondent.

A hearing was held on July 24, 1913, at Superior, Wis. *J. A. Little* appeared for the petitioner and *W. W. Walker* for the respondent.

The testimony shows that the Duluth, South Shore & Atlantic Railway Company operates, during the summer months, a Sunday excursion train from Duluth, Minnesota, to Bibon, Wis., and return, on the following schedule:

	Westbound	Eastbound
Duluth	7:45 a. m.	9:20 p. m.
Superior (Union Sta.)	8:20 "	8:40 "
Lake Nebagamon	9:30 "	7:15 "
Wills	9:52 "	6:50 "
Bibon	11:00 "	5:45 "

This train stops at all stations in Wisconsin between Superior and Bibon except Winnibijou, both outbound and inbound. One regular train in each direction stops at Winnibijou on Sundays, leaving there for Superior at 8:28 a. m. and arriving from Superior at 8:23 p. m. During the week a morning and evening train in each direction stop at Winnibijou daily.

The petitioner, who lives at Superior, testified that he owns a summer home about a mile from Winnibijou at which he spends his Sundays during the summer. He is now obliged to go by the way of Brule, a station on the line of the Northern Pacific Railway Company about two and one-half miles from Winnibijou, but he would prefer to use the respondent's Sunday excursion train if it were stopped at Winnibijou. It appears that there are about eight or ten families comprising about forty persons living within one mile of Winnibijou. A witness who lives about five miles south of this station testified that within from five to eight miles of Winnibijou to the south there are living about fifty or sixty persons for whom this is the nearest railway station. The land immediately surrounding the station is owned by the Winnibijou Fishing Club, the members of which usually spend the week end there. The station, however, is connected by means of a path on the railway right of way with a public highway, over which access is afforded to several tracts of land which are a part of the state forest reserve, and are open to the public. Witnesses stated that on the average about eight or ten persons use each regular train at Winnibijou, and that other stations on this line are substantially similar to Winnibijou with regard to the tributary population, and the amount of passenger business.

The respondent's general passenger agent testified that the train which the complainant desires to have stop at Winnibijou was put on as an excursion train to accommodate, primarily, persons desiring a Sunday outing from Duluth or Superior, and was not intended to serve the needs of residents along the line. The reason for refusing to stop this train at Winnibijou is that it would be detrimental to the interests of the Winnibijou Fish-

ing Club and ultimately to the company. He stated that the train would have been run only to Lake Nebagamon if there had been facilities for turning it there. He asserted that the traffic beyond Lake Nebagamon is not sufficient to justify running the train on to Bibon, if there were no operating reasons for doing so. Subsequent to the hearing the company submitted traffic data which show the business done by the excursion train up to the second Sunday in July for 1912 and 1913 as follows:

	1912.		1913.	
	No. of passengers.	Revenue.	No. of passengers.	Revenue.
Sundays in May:				
3d	.....	.....	136	$86.28
4th	.....	.....	110	75.12
Sundays in June:				
1st	145	$78.29	214	158.51
2d	150	110.68	158	108.61
3d	100	78.65	148	102.21
4th	212	144.28	147	104.08
5th	111	96.53	120	69.60
Sundays in July:				
1st	165	129.08	202	154.64
2d	192	158.30	130	110.33
	1075	$795.81	1365	$969.38

The reason advanced by the company, namely, that the Winnibijou Fishing Club objects to the stopping of the respondent's Sunday excursion train at Winnibijou, cannot be recognized by the Commission as a justification for depriving other patrons of a service to which they are equally entitled, and which is now rendered at other stations of equal or less importance than Winnibijou. It is our judgment that the failure to stop the Sunday excursion train at Winnibijou is unjustly discriminatory and that the prayer of the complaint should be granted.

IT IS THEREFORE ORDERED, That the respondent, the Duluth, South Shore & Atlantic Railway Company, arrange the future schedule of its summer Sunday excursion train between Superior and Bibon to provide a stop at Winnibijou.

MADISON GAS AND ELECTRIC COMPANY

vs.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted Nov. 26, 1913. Decided Dec. 13, 1913.

Petition is made for an order requiring the respondent to install a spur track for the use of the petitioner under the terms of sec. 1797—11*m* of the statutes. The petitioner alleges that the spur track desired is practically indispensable to the successful operation of its plant as improved by the installation of a mono-rail system for the handling of coal; that neither the construction nor the operation of the spur track will be unusually unsafe or dangerous or unreasonably harmful to public interest; that an existing spur track which is now useful only to the petitioner and which will cease to be useful even to the petitioner upon the completion of the petitioner's new coal handling system, can be changed to meet the requirements of the petitioner; and that the respondent refuses to cause the change to be made unless the petitioner signs a contract containing a provision imposing all liability growing out of the construction, maintenance or operation of the track upon the petitioner, except liability for personal injuries.

The contention of the respondent that having once provided the petitioner with track facilities adequate to the then existing needs of the plant the respondent cannot be required either to change the existing tracks or to install additional tracks to meet new requirements of the industry, is not tenable.

In deciding whether a proposed spur track is practically indispensable to the successful operation of a public utility the mere physical possibility of operating the plant without the use of the spur cannot be taken as conclusive of the question, but consideration must be given to the needs of the plant when operated with the efficient and economical equipment which it is the duty of the public utility under the law (*Berend v. Wis. Tel. Co.* 1909, 4 W. R. C. R. 155) to install and maintain.

The problem of what constitutes the proper use of a street for railroad purposes under permission granted by a city depends for solution upon a number of facts and circumstances. What may be an unreasonable use of a street by a railway company in one locality may be a reasonable use in another locality. In the instant case the street involved, though not legally vacated, has been occupied almost entirely by the respondent under municipal grants for public teaming and industrial tracks and the street has never been required, and in all probability will never be required, for public use. The objection urged by the respondent on the ground that the track desired by the petitioner would have to be constructed and operated, and that cars would have to be spotted for unloading in a public street is therefore not sufficient to justify a refusal to grant the relief asked for by the petitioner.

Held: The spur track requested by the petitioner is practically indispensable to the successful operation of the petitioner's new plant for the manufacture of coal gas and it meets all other statute requirements in that it is less than three miles in length and will not in its construction and operation be unusually unsafe and dangerous nor unreasonably harmful to the public interest.

It is ordered: (1) that the respondent construct an adequate and suitable spur track as prayed for by the petitioner; and (2) that the petitioner deposit with the respondent the sum of $588, the estimated cost of the spur track, and give the respondent a bond to be approved by the Commission, securing the respondent against loss on account of any expense incurred beyond the amount of the deposit.

The petitioner is a public service corporation engaged in supplying the city of Madison and its inhabitants with gas and electric service. It has under construction at its plant, located in block 131 in said city of Madison, a mono-rail system for the handling of coal, the installation of which is not yet completed but will be completed within a few days.

It alleges that the installation of the mono-rail system was made necessary by the construction of a new gas plant, the modern design of which requires the elevation of coal used for charging purposes, and that the installation of said system also makes for great economy in the handling of coal required for use in the generation of electric current; that it is practically indispensable to the successful operation of the gas plant and of the said electric plant, that a spur track be constructed and maintained opposite said block 131, at the place more particularly designated in a certain ordinance granting municipal authority to said railway company to construct said track, which ordinance was duly adopted on October 25, 1913, and duly published as required by law; that neither the construction nor the operation of said spur track is, or will be, unusually unsafe or dangerous, or unreasonably harmful to public interest; that the spur track so required will be not to exceed five hundred feet in length, and will involve only the change of an existing spur track in Railroad street, in said city of Madison; that said spur track so to be changed is not now used to serve any industry or enterprise excepting alone the petitioner, and that upon completion of said coal handling system, the same will cease to be of any service whatever to the petitioner or to anyone else; that said railway company has heretofore informed the petitioner that the cost of changing such tracks, including the installation of said proposed spur, will not exceed the sum of

$588, which the petitioner has at all times been and is now willing to pay; that the railway company has advised the petitioner that it is willing to cause said change to be made, and said spur track to be installed, and that it is practical and feasible for said work to be done at once, but that it cannot proceed with said work unless the petitioner is willing to sign a blank form of contract provided by the legal department of said railway company; that the petitioner is advised and believes that the said railway company has no legal right, as a condition of installing said spur, to exact from the petitioner the signing of a contract according to said form, and especially one containing a provision purporting to subject the petitioner to all liability of every kind or nature growing out of either the construction, maintenance or operation of said track, save only of the petitioner to the public is such that it may not incur any liability for personal injuries, for the reason that the obligation such obligation; that said railway company has refused to install said spur track unless the petitioner will submit to said illegal exaction on the part of said railway company; wherefore, petitioner prays that, pursuant to sec. 1797—11m of the Wisconsin statutes, the said railway company be required to promptly install the said spur track.

The respondent, answering the petition, denies that it is practically indispensable to the successful operation of the electric plant of the petitioner that a spur track be constructed and maintained opposite block 131 at the place designated in the petition. The respondent admits that it maintains in Railroad street, opposite block 131, certain spur tracks, which tracks, it is alleged, were put in to serve the plant of petitioner, and in the manner required by the petitioner, but denies that said tracks are so located as not to meet the requirements of the petitioner, or to enable it to successfully operate its gas plant. The respondent admits that it declines to install the track for petitioner unless petitioner signs a proper agreement regarding such track, but denies that it is insisting upon any particular form of contract, although it has a form of contract for use in such cases, and admits that one of said forms was submitted to the petitioner with the request that the petitioner sign the same. The respondent further alleges that in the manufacture of gas, especially gas made from coal, there is great danger of fire occurring upon the premises, and that there is usually a dispute between the owner of the premises and the

railway company as to the cause of the fire; and admits that in serving the property of petitioner the respondent insists that it shall be relieved of any responsibilty or liability for fire occasioned or claimed to have been occasioned by its engines or by reason of the operation of said track, and that it is unwilling to install the track unless the petitioner execute and deliver to it an agreement indemnifying it against any claim for damage on such account. The respondent also alleges that the proposed location of the spur track is in a public highway in the city of Madison, an incorporated city of the state of Wisconsin, and denies that the Commission has any authority to require the respondent to install a track within the limits of, or longitudinally in, any public street or highway.

The matter came on for hearing on November 26, 1913. *Olin & Butler,* by *H. L. Butler,* appeared for the petitioner. *William G. Wheeler,* assistant general counsel, appeared for the respondent.

The allegations of the petition as to the construction, location, and purposes of the new gas plant of the petitioner are not in controversy. It is also admitted that the mono-rail system of handling coal and coke now under construction and designed to handle coal for the gas plant and the electric plant operated in connection therewith, will be a great convenience and lessen the cost of moving coal from the cars to the overhead storage bin in the plant. The mono-rail system is so arranged that with the construction of the proposed sidetrack in question, it will be possible to take coal directly out of the cars at a point adjacent to the plant on Railroad street and convey the coal to the place of storage. In order to successfully operate the gas plant, it is necessary that the coal be elevated, as the plant is operated by means of a charging and discharging machine, which requires the coal to be elevated about forty feet. Consequently, if an elevated mono-rail system were not employed, it would be necessary to remove the coal from the cars and haul it across the premises of the petitioner at grade and then elevate it to the place of storage. This would be an expensive method of handling the coal. The elevated mono-rail system is so arranged that the conveyor runs from the place of discharge to a point adjacent to the plant on Railroad street, where a cantilever is projected, by means of which the bucket is lowered directly to the cars, and when raised may be taken

from this point either to the electic plant or the gas plant for unloading.

The proposed track is located in Railroad street, where the existing track is located. The portion of Railroad street in which the proposed track is projected is not used for teaming or travel by pedestrians. It is given over entirely to the railroads for teaming and industry tracks.

The railway company opposes the installation of the proposed track. It maintains in the first place that as there are now three tracks serving the plant, two of which are located on petitioner's premises and one in Railroad street, which were adequate for all purposes of the plant until petitioner discontinued the manufacture of water gas and erected a new plant for the manufacture of coal gas, no further duty rests upon it, either to change the existing tracks or to install additional tracks to meet any new requirements of the industry. According to this contention, it follows that the petitioner, having once been supplied with sufficient industrial track facilities, its right in the premises, under the statute, has been exhausted, and any other such facilities, however essential, must result from negotiation and agreement between the parties and cannot be imposed upon the railway company against its will. Obviously, if this position is maintainable under any proper interpretation of the statute, the benefits contemplated by the enactment would in many instances fail of realization. No extension, improvement or alteration could be made in any industry involving a relocation or change in its industrial or sidetracks, or requiring additional sidetrack facilities, except at the peril of the owner being obliged to yield to any terms that the railway company might see fit to impose as a condition of its consent to the new arrangement. This would tend to retard the development of industrial enterprises, and therefore cannot be accepted as a permissible construction of the statute, unless the terms of the statute are so clear as to warrant no other construction. A careful reading of the statute is sufficient to convince one that no such interpretation is permissible. Furthermore, when we consider that the narrow construction sought to be placed upon the statute merely emphasizes an evil which the statute was designed to remedy, we cannot charge the legislature with the absurdity involved in the position taken by the railway company. The protracted negotiations incident to the furnishing of side-

track facilities to industries and generally accompanied with more or less strife, resulting at times in failure of agreement and at times in the formation of contractual relations of questionable expediency, were causes which led to the enactment of the statute. No interpretation or construction of the statute may be indulged in which will defeat its purpose. The contention of the railway company upon this point is not, in our judgment, tenable.

It is also objected by the respondent that as the proposed track is to be located in a public street, the spotting of cars for unloading would be unlawful use of the street for railway purposes. In support of this contention the following cases are cited: *Bussian v. Milwaukee, L. S. & W. R. Co.* 1882, 56 Wis. 325; *Fay v. M. St. P. & S. S. M. R. Co.* 1907, 131 Wis. 639; *Depow v. C. & N. W. R. Co.* 1912, 151 Wis. 109. Each of these cases involved the negligence of the railway company in leaving either a locomotive or car standing in a highway or on a crossing for an unreasonable length of time, causing horses to become frightened and run away, and injure the plaintiff. The court recognized and applied to the facts of each case the well established rule that,

"Under our statutes a railway company has a right to use the streets on which its tracks are lawfully laid for legitimate purposes, but it has no right to leave its cars standing upon the street for an unnnecessary and unreasonable length of time". *Depow v. C. & N. W. R. Co., supra.*

While a city may grant a right to a railway company to construct a track in a street, the railway company in constructing, maintaining and operating such track must not unreasonably interfere with the concurrent right of the public to use the street for public travel. Subject to this limitation any necessary and reasonable use of the street for railway purposes is permissible. The question of proper use in any case, when a particular use is under consideration, is generally a question depending for solution upon a number of facts and circumstances. What may be an unreasonable use of a street by a railway company in one locality may be a reasonable use in another locality. Standing engines, or cars for loading or unloading, for any length of time in a public street which is extensively used by the public for vehicular traffic may be unreasonable, while permitting such engines or cars to stand for the same length of time in a street which is not at all required or used by the

public for travel may be quite reasonable. So long as there is no impairment of the public use of the street upon which a railway track is lawfully maintained and operated by a railway company, any proper railway purpose, such as the placing of cars alongside a warehouse, dock or manufacturing or mercantile industry of any kind for the purpose of loading or unloading, is not to be condemned as an infringement on the public right in the street. Under the police power vested in the municipality reasonable rules and regulations may be enacted at any time by the city to govern the use of the track in question, if it becomes necessary to protect the public right in the street. We cannot assume that the track in question, when constructed, will be operated illegally or used for unlawful purposes.

The respondent railway company applied to the common council of the city for a grant of the right to lay the proposed track in the street, which grant was duly made by the council and accepted by the respondent. Since then no opposition has arisen from abutting property owners. This is probably due to the fact, as has already been stated, that the street in question, though not legally vacated, has been occupied almost entirely by the railway company under municipal grants for public teaming and industrial tracks, and also to the fact that the street has never been required, and in all probability will not be required, for public use. The property abutting on either side of the street and adjacent to the proposed track belongs to the petitioner and the respondent, respectively. There is nothing in the situation presented that would justify our refusal to grant the relief asked in the petition upon the ground that the track would be constructed and operated in a public street.

Relative to the claim that there is no evidence to support a finding that the proposed spur track is practically indispensable to the successful operation of respondent's plant, it may be said that the mere physical possibility of operating the plant without the use of the mono-rail system, as shown by the testimony and emphasized by the counsel for respondent in his argument, is not conclusive of the question. Nor is it the proper criterion by which the necessity required by the statute as a condition of the installation of the spur track is to be determined.

"Necessity is recognized as a matter of degree. A thing may be necessary, more necessary and *indispensably* necessary.

(Cotton et al. v. The Co. Commissioners, 1856, 6 Fla. 629). When a thing is necessary, therefore, it may be merely 'convenient or profitable', or it may be 'indispensable to the accomplishment of a purpose.' *(St. Louis R. R. Co. v. Trustees,* 1867, 43 Ill. 307). In other words, 'indispensable' is recognized as the superlative of 'necessary'. To define necessary in its most rigid sense, would be to say it is synonymous with indispensable—that without which a certain purpose cannot be accomplished. Webster's definition is 'absolutely necessary or requisite', 'impossible to be omitted or spared'." *Hurst v. N. P. Ry. Co.* 1909 3 W. R. C. R. 283, 286–287.

Applying the language of the statute as thus explained to the facts and circumstances disclosed by the investigation, the resolution of the question is not at all intricate. The petitioner is a public service corporation engaged in supplying the public with gas and electric current. The measure of its duty to the public has been expressed by the Commission as follows:

"Every public service corporation is required by law to furnish adequate and efficient service to the public according to the development and state of the art at the time the service is performed, and to exact therefor only reasonable compensation. Thus, to fulfill its public duty, it must at all times keep and maintain its plant in a proper state of repair and in an efficient operating condition, adopt new inventions as they arise, make extensions and improvements of its plant when necessary and required for the convenience of the public, and continue its services without cessation whether profitable or unprofitable. It is by statute subject to public supervision as to the extent and quality of its service as well as to the charges it may lawfully exact therefor." *Berend v. Wis. Tel. Co.* 1909, 4 W. R. C. R. 155.

In accordance with its public obligations, the petitioner constructed a new gas plant for the manufacture of coal gas. It formerly manufactured water gas, but the increase of business made it necessary to extend the plant. As a matter of economy the manufacture of water gas was almost entirely discontinued, and the old plant is now operated merely as an auxiliary to the new plant. In designing and constructing the new plant every economy was considered. Chief among these is the mono-rail system, which was designed to reduce operating cost in unloading coal from cars and conveying it to the places of storage. Without the use of the mono-rail system the cost of handling the coal will be greatly increased. To abandon the mono-rail

system, which cost approximately $20,000, and to change the arrangement of the plant so as to permit of handling the coal in another and more expensive way, would cast a burden upon the petitioner not warranted by the situation. Such a handicap ought not to be imposed if it can be avoided. Certainly the plant as at present constructed cannot be successfully operated without the use of the mono-rail system, and the spur track in question is essential to such use. Upon the facts disclosed upon the investigation we are satisfied that the case comes within the meaning of those terms of the statute requiring a railroad company to construct, connect, maintain, and operate a reasonably adequate and suitable spur track wherever the same is "practically indispensable to the successful operation" of any industry.

There is not, and under the circumstances there could not be, any serious contention that the construction and operation of the proposed track would be unusually unsafe and dangerous or unreasonably harmful to public interest. It is the judgment and finding of the Commission that the proposed spur track mentioned and described in the petition is less than three miles in length, is practically indispensable to the successful operation of petitioner's new plant for the manuafacture of coal gas, and its construction and operation is not unusually unsafe and dangerous and is not unreasonably harmful to public interest.

NOW, THEREFORE, IT IS ORDERED, That the respondent Chicago & North Western Railway Company construct an adequate and suitable spur track as prayed for by the petitioner herein along the route designated by the blue print attached to respondent's application to the common council of the city of Madison for permission to construct the spur track on Railroad street in said city.

IT IS FURTHER ORDERED, That the petitioner herein deposit with the said Chicago & North Western Railway Company the sum of $588, the estimated cost of said spur track; and also give the said railway company a bond to be approved by the Commission as to form, amount and surety, securing the said railway company against any loss on account of any expense incurred beyond the amount of said deposit.

Thirty days is deemed a reasonable period of time within which compliance with the provisions of this order shall be made.

P. J. FORD
vs.
CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted June 20, 1913. Decided Dec. 13, 1913.

The petitioner alleges that the respondent's freight and passenger station facilities at Belle Plaine, Shawano county, are inadequate and asks that the respondent be required to construct a suitable depot for the accommodation of passengers and the storing of freight and to construct and maintain a yard and loading facilities for stock. The respondent agreed at the hearing to add a waiting room for passengers to the existing building and to employ a caretaker to keep it clean and heated. The respondent has also installed a portable stock chute. Permanent stock yards are available at Embarrass, a point 4½ miles distant.

Held: The present station facilities, though adequate with respect to the shipment of stock, are in need of improvements in certain other respects. The respondent is therefore ordered to provide the station with a stove and suitable lights and to employ a caretaker who shall keep the station clean and properly lighted and heated.

The petition alleges in substance that the freight and passenger station facilities at Belle Plaine, Shawano county, are inadequate. The Commission is therefore asked to require the Chicago & North Western Railway Company to construct a suitable depot for the accommodation of passengers and the storing of freight, and to construct and maintain a yard and loading facilities for stock.

The respondent, in its answer, alleges that its station at Belle Plaine is adequate for the accommodation of all freight business done there. It states its intention to provide an addition to the depot for the use of passengers and to furnish a portable stock chute for the use of shippers. The dismissal of the petition is therefore asked.

A hearing was held on June 20, 1913, at Belle Plaine; *C. F. Dillett* appeared for the petitioner and *C. A. Vilas* for the respondent.

The testimony shows that the station at Belle Plaine consists of a shed sixteen feet long and ten feet wide which is used

as a shelter for both freight and passengers. Counsel for the company stated that it would add a waiting room for passengers, the same size as the existing building and employ a caretaker to keep it clean and heated. Witnesses for the petitioner stated that this arrangement would be satisfactory as to passenger facilities, but asserted that the existing shed is not sufficiently large to accommodate the freight business. It was said that when the three cheese factories which are tributary to this station receive empty cheese boxes at the same time the depot is not large enough to shelter them, and that some losses have resulted from their exposure. Witnesses testified that other freight is sometimes left on the platform even though there is room in the depot. The inconvenience in shipping or receiving goods at a prepaid station was also commented on. The company's superintendent expressed the opinion that the existing building would be ample for storing freight, and stated that train crews are instructed to put freight under shelter. He said that a box would be provided in which shipping bills could be left for the conductor's signature.

Subsequent to the hearing the company submitted a statement of its freight and passenger earnings which has been summarized in the following table:

Year ending May 31, 1913.

	Total for year	Average per month
Revenue from carload freight....	$3,302.67	$275.22
Revenue from L. C. L. freight...	815.07	67.92
Total freight revenue.....	$4,117.74	$343.15
Total passenger revenue.....	$863.10	$71.92

The company's superintendent testified that portable stock chutes, such as the one to be installed at Belle Plaine, are used at more important shipping points, among which Wabeno and Laona were mentioned. He expressed the opinion that the cattle shipping business at Belle Plaine would be insufficient to justify additional facilities. It appears that stock from this district is now shipped from Clintonville, a distance of nine miles from Belle Plaine. However, investigation shows that facilities for loading stock including a yard are provided at Embarrass only four and one-half miles from Belle Plaine,

which is connected with it by a fairly good wagon road. Witnesses for the petitioners testified that the portable stock chute would be sufficient if a yard is provided. Such a yard would cost between $200 and $300, according to the estimate of the superintendent, but a witness for the petitioners estimated the cost at under $100.

From an examination of the testimony and the report of our engineer it is our judgment that with the addition of a passenger waiting room, the employment of a caretaker to keep the station clean and properly heated and lighted, the installation of a bill box for the convenience of shippers of less than carload freight, and the enforcement of the rule that all less than carload freight should be unloaded into the shed, the station facilities at Belle Plaine will be adequate for the present. The respondent agreed at the hearing to make these improvements, but investigation shows that up to this date it has not provided a caretaker or suitable means of heating and lighting the depot.

It is contended in the company's brief, and has been verified by the investigation of our engineer, that the permanent stockyards located at Embarrass, four and one-half miles from Belle Plaine and connected with it by a fairly good road have not been used for three years. If, with these facilities available, shippers living in the vicinity of Embarrass and Belle Plaine now drive their stock a greater distance to Clintonville for shipment instead of using the stockyards at Embarrass, there is good reason to believe that a large proportion of it would continue to be shipped as at present, even though permanent stockyards were provided at Belle Plaine. It is practicable to load stock by means of the portable stock chute which the company has voluntarily installed, and until the actual stock shipments at Belle Plaine demonstrate that additional facilities are necessary, we do not feel justified in requiring the erection of a yard as prayed for.

IT IS THEREFORE ORDERED, That the respondent, the Chicago & North Western Railway Company, provide a stove and suitable lights at its station at Belle Plaine, and employ a caretaker who shall keep the station clean and properly lighted and heated.

F. G. CROSS ET AL.
vs.
CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted Nov. 5, 1913. Decided Dec. 13, 1913.

Petition is made that the C. & N. W. Ry. Co. be required to construct and maintain an adequate depot at Allenville, Winnebago county. The railway company now maintains a box car shelter for freight but provides no shelter for passengers.

Held: The business transacted by the railway company at Allenville is sufficient to warrant the erection of a building for the accommodation of passengers and proper protection of freight. The company is therefore ordered to provide a building suitable for these purposes and to place it in charge of a caretaker who shall keep it clean and properly lighted and heated. Plans are to be submitted for approval.

The fact that passengers have been permitted to wait for trains in a store near the depot does not relieve a railway company of its duty to provide adequate station facilities.

The petition, which is signed by fifty-five persons living in the vicinity of Allenville, Winnebago county, on the line of the Chicago & North Western Railway Company, alleges in substance that Allenville has been a station on the respondent's line since it was constructed in 1879, but that no depot has been provided there for the convenience of passengers and the storing of freight and express. The Commission is therefore asked to require the respondent to construct and maintain an adequate depot at Allenville.

No answer was filed by the respondent.

A hearing was held at Allenville on November 5, 1913, at which *F. G. Cross* appeared for the petitioners and *C. A. Vilas* for the respondent.

The testimony shows that the Chicago & North Western Railway Company maintains a box car shelter for freight at Allenville, but that no shelter is provided for passengers. Persons who are obliged to wait for a train ordinarily stay at a general store which the superintendent stated is between four hundred and five hundred feet from the stopping place. One of the proprietors of this store acts as an agent of the company, selling

passenger tickets and signing receipts for outgoing freight. Other than this the service at Allenville is that of a prepaid station. It was admitted by the company's superintendent that passengers trains are somewhat irregular at Allenville, and witnesses for the petitioner stated that when trains are late it is very inconvenient to wait at the store, especially in inclement weather, because of the uncertainty of the time of arrival of trains. Occasionally a freight train is mistaken for the overdue passenger train, and in such cases passengers must return to the store or wait on the exposed platform. Witnesses complained that the existing freight shed is in poor repair and that the roof leaks.

Allenville has been a stopping place on this line since the road was built. It now contains a store, a blacksmith shop, a post office, an elevator, a church and a school and is the shipping point for several cheese factories. A witness estimated that fifty people live within a radius of a quarter of a mile of the station and that about three hundred live within a mile of it. The company maintains facilities for shipping stock and other products in carload lots. Two passenger trains in each direction are operated. The passenger traffic consists largely of persons traveling to and from Oshkosh which is about eleven miles distant from Allenville. One witness estimated the passenger traffic at from two to twenty-five per day. Another testified that he had seen as many as twenty-five persons board a single train at this station. Subsequent to the hearing the company submitted with its brief a statement showing the passenger earnings for the year ending September 30, 1913, to be $681.60. When it is considered that the fare to Oshkosh is only 22 cts. and that most of the travel is to and from that city it becomes apparent that the actual number of passengers carried is considerable. The company's statement also shows that the freight earnings for the same year were $4,263.93, making the combined freight and passenger earnings $4,945.53 or an average of $412.17 per month. During the period covered, the record shows that seventy-four cars were shipped from Allenville and forty-four cars received there.

Several minor matters relating to the method of delivering less than carload freight, the placing of cars for loading, and other details were discussed at the hearing, but investigation shows that they have now been satisfactorily adjusted.

With respect to station facilities we are of the opinion that the business transacted by the respondent at Allenville is of sufficient importance to warrant the erection of a building for the accommodation of passengers and the proper protection of freight. The existing box car shed is in poor repair and there is some doubt as to whether it could be satisfactorily remodeled, if it were considered desirable to do so. But in view of the fact that we deem it necessary to erect a shelter for passengers, it appears to be advisable to construct a building of sufficient size to provide for the needs of both the freight and passenger traffic. In its brief the company contends that a shelter for passengers is unnecessary because persons are now allowed to wait at the general store. The practice of requiring passengers to wait in a store which may not be open at all times nor have sufficient seating room and in which they may be subjected to petty annoyances cannot be regarded with approval. It is the duty of the railway company to provide adequate station facilities and it should not expect an individual whose business is near the depot to assume this duty.

IT IS THEREFORE ORDERED, That the respondent, the Chicago & North Western Railway Company, provide a suitable building for the protection of passengers and freight at Allenville, and place it in charge of a caretaker who shall keep it clean and properly lighted and heated, plans to be submitted to the Commission for approval.

The building ordered herein should be ready for occupancy within sixty days.

IN RE APPLICATION OF THE CITY OF MENASHA FOR AUTHORITY TO INCREASE ITS ELECTRIC RATES.

Submitted Oct. 29, 1912. Decided Dec. 19, 1913.

Application is made by the city of Menasha for authority to increase its rates for commercial electric lighting and power service. The rates asked for were put into effect by the city in February, 1912, but not filed with the Commission, when the city began to furnish regular commercial service to consumers in the city in competition with the privately owned utility doing business there. The rate formerly in effect was for a small amount of service supplied from the municipal street lighting system to private parties at such times only, it appears, as the equipment was in operation for municipal purposes.

Held: It is probable that the rates asked for by the applicant might have been accepted without hearing as rates for a new service had they been so filed with the Commission. The rates in question do not meet entirely with the approval of the Commission, but no alteration will be made under the present proceeding. The applicant is therefore authorized to put into effect the schedule of rates described in its application.

This is an application of the city of Menasha for authority to increase its rates for commercial electric service. Application was filed with the Commission July 2, 1912.

Hearing was held October 29, 1912, at the Commission's office in Madison. *D. K. Allen,* city attorney, and *S. S. Little,* city clerk, appeared for the applicant. No one appeared in opposition to the application.

The rate formerly in effect was 6 cts. per kw-hr. This was for service rendered to private parties from the municipal street lighting system. The schedule of rates that the city now desires to have authorized for service from a regular commercial system is as follows:

LIGHTING RATES.

First	50	kw-hr.	per	month	to	one	consumer	... 8	cts. per kw-hr.
Second	50	"	"	"	"			... 7	" "
Next	100	"	"	"	"			... 6	" "
Next	200	"	"	"	"			... 5	" "
All over	400	"	"	"	"			... 4	" "

Minimum charge: 50 cts. per month per meter.

POWER RATES.

First 100 kw-hr. per month to one consumer .... 6 cts. per kw-hr.
Next 100 " " " " .... 4 " "
All over 200 " " " " .... 3 " "
Minimum charge: $1.00 per h. p. installation for total h. p. of motor used by one consumer.

DISCOUNTS.

Discount of 10 per cent on all bills paid on or before the 10th day of the month in which payable. All meters will be furnished and installed free by the city.

For several years the city of Menasha has furnished its own street lighting service from an electric plant operated in connection with the municipal water works. During at least part of this time a small amount of service was supplied to private parties from the street lighting system at such times, we understand, as the equipment was operated for municipal purposes. The bulk of the commercial electric business was carried on by the Wisconsin Traction, Light, Heat and Power Co. About February, 1912, the applicant began to furnish regular commercial service to consumers in Menasha in competition with the private utility doing business there. The applicant's right to do so was sustained later by the circuit court of Winnebago county. The rates that the city began to charge in February, 1912, were those named in its application. These rates did not come to the Commission's notice until some time after they were put in force by the city on account of applicant's failure to file the schedule. The city was advised to make formal application for authorization of rates.

While at first it appeared that the new rates of the municipal utility constituted an increase over former charges and therefore required a formal application and hearing on the question, further facts seem to show that the new rates might have been accepted without hearing as rates for a new service had they been so filed. Although the utility did actually have in force a 6 cts. per kw-hr. rate for service to private users, it is very doubtful if this should have been taken as a precedent for rates when the city later came to furnish service of a different character from a commercial system. The order in the case will be made in accord with this view, because no objection has been made to the rates proposed by the applicant.

At the time that the hearing was held and investigation was made, the municipal utility had not been long in operation. The evidence and testimony adduced concerning the cost of operation were not as conclusive, therefore, as might be desired. This evidence will not be reviewed here for it does not appear to be very material in view of the basis upon which the proceeding is to be disposed of. We are inclined to the belief that the character or form of the schedule should be different from that proposed in the application, but under the circumstances no alteration will be made at this time. Should these rates again come before us under another proceeding, occasion might be taken to revise the schedule both as to form and amount of charge.

IT IS THEREFORE ORDERED, That the applicant, the city of Menasha, be and the same hereby is authorized to place in effect the schedule of rates described in its application, for lighting and power service in the city of Menasha.

AUGUST PUKALL ET AL.
vs.
CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted Sept. 19, 1913. Decided Dec. 19, 1913.

The petitioners allege that the station facilities on the respondent's line at Shepley, Shawano county, are inadequate, in that no station agent is maintained there. Shepley is a prepaid station and the service rendered appears to be similar to that ordinarily afforded at a prepaid station. The passenger traffic is light, and the greater part of the freight consists of forestry products in carload lots.

Held: Conditions at Shepley do not warrant the issue of an order requiring the respondent to maintain an agent at that point. The petition is therefore dismissed. The respondent should, however, arrange to designate the consignees of empty cars and remove the causes of other minor complaints made by the petitioners.

The petition, which is signed by twenty-seven residents of Shepley in Shawano county, alleges in substance that the traffic at Shepley warrants the employment of a regular station agent, and that the station facilities there are inadequate because no agent is maintained. The Commission is therefore asked to require the maintenance of an agent at Shepley.

In its answer, the respondent denies that the traffic at Shepley is sufficient to warrant placing an agent in charge of the station, and therefore asks that the petition be dismissed.

A hearing was held at Eland on September 19, 1913, at which *Chas. F. Smith, Jr.,* appeared for the petitioners and *C. A. Vilas* for the respondent.

Shepley is a prepaid station located 6.17 miles from Eland and 5.7 miles from Bowler. It is admitted that the depot is sufficiently large for passengers and freight and that it is properly maintained and heated. It also appears from the testimony that the service rendered is similar to that ordinarily afforded at a prepaid station. Shippers have to arrange for cars with the way freight conductor, and make out their own shipping bills. When empty cars are supplied there is no way

of ascertaining for whom they are intended, and if an insufficient number are sent to supply all who desire them, the first shippers to begin loading get the cars. Shippers of less than carload lots have to make out the bills of lading and wait for the way freight which runs very irregularly. Goods shipped into Shepley are usually put in the freight room. The key of this room is kept by the section foreman who is not in the vicinity of the station all of the time, and occasionally persons have been inconvenienced because they could not get their goods from the freight room. The company's superintendent said that he would arrange to have a key left at the section foreman's house all of the time so that this cause of complaint would be obviated.

A witness estimated that Shepley draws traffic from six miles to the north, two miles to the south, three and one-half miles to the west and three miles to the east. Most of the freight shipments are forwarded in carloads and consist chiefly of forestry products, such as poles, wood, lumber and sawdust.

Subsequent to the hearing the company submitted a list of the carload shipments from Shepley, showing by months the shippers, kinds of goods and number of cars, from September 1912 to October 1913. These data, which are summarized below, are in substantial agreement with the exhibits introduced by the petitioner. All of the shipments were forestry products.

Month.	Number of shippers.	Number of cars.
September, 1912	5	32
October, "	7	23
November, "	7	31
December, "	7	34
January, 1913	13	65
February, "	10	48
March, "	11	51
April, "	11	58
May, "	6	110
June, "	7	20
July, "	5	11
August, "	8	32
September, "	6	13

At the hearing the company submitted a statement showing that its freight earnings at Shepley for the year ending September 16, 1913, were as follows:

Received	$633.82
Forwarded	11,629.29
Total	$12,263.11

Passenger earnings for three years ending May 31, 1913, were as follows:

Year	Number of passengers	Revenue
1911	782	$213.26
1912	965	257.86
1913	1,370	317.80

The superintendent testified that a number of stations on the respondent's line at which the business transacted is larger than at Shepley do not have regular agents.

In the light of the testimony it is our judgment that conditions at Shepley do not warrant an order requiring the company to maintain a regular agent. Passenger traffic is light, and the greater part of the freight consists of forestry products in carload lots, which appear to be handled as expeditiously as they would be if a regular agent were employed. The company should arrange to designate the consignees of empty cars and remove the causes of the other minor complaints mentioned at the hearing. The prayer of the petition for a regular agent must, however, be dismissed.

IT IS THEREFORE ORDERED, That the petition herein be and the same is hereby dismissed.

VILLAGE OF UNITY

vs.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY.

Submitted Aug. 15, 1913. Decided Dec. 20, 1913.

The petitioner alleges: (1) that the respondent's passenger train service at Unity is inadequate; (2) that there are not enough highway crossings over the respondent's line in the village; and (3) that the crossing at Clark st. is not properly graded.

Held: 1. The petitioner's request that the respondent be ordered to stop passenger trains number 103 and 104, which form part of the respondent's limited service between Chicago and Ashland, at Unity cannot be granted for the reason that the train service now rendered at Unity is reasonably adequate.

2. The Commission can take no action in the matter of the crossings desired by the petitioner at Cook, Wood and Church sts. until the streets named have been legally opened by the village over the railroad right of way and petition is made to the Commission for the determination of the mode and manner of crossing, as provided in sec. 1797—12*e* of the statutes.

3. The crossing at Clark st. is dangerous in its present condition. It is the respondent's duty under sec. 1299*h*—1 of the statutes to remedy this defect by proper treatment of that part of the highway which lies within the railroad right of way.

The respondent is therefore ordered to provide a properly drained roadway within its right of way lines at Clark st., which shall be surfaced and graded in substantially the same manner as the adjacent portions of the highway, and which shall have a crown as wide as the full traveled roadway in the adjacent portions of the highway.

The petitioner, a municipal corporation lying partly in Clark county and partly in Marathon county, alleges in substance that the train service at Unity is inadequate, that there are not enough highway crossings over the respondent's line in the village, that the crossings are unprotected, and that the crossing at Clark street is not properly graded. The Commission is therefore asked to open a crossing at Cook and Wood streets and another at Church street, and to require the respondent to properly grade the Clark street crossing, install bells at the above mentioned crossings and stop its passenger trains No. 103 and No. 104 at Unity on signal.

The respondent, in its answer, denies that its train service at Unity is inadequate or that the traffic warrants the stopping of

the trains in question. With regard to the designated crossings it states that it will appear and go into the merits of the situation at the hearing.

The matter was heard on August 15, 1913, at Unity. *E. C. Pors* appeared for the petitioner, and *Kenneth Taylor* for the respondent.

The testimony shows that Cook and Wood streets and Church street have not been legally opened by the village over the railroad right of way. Until this action is taken the Commission is without jurisdiction in the matter, but after the proper legal proceedings to open these crossings have been taken the Commission will, upon petition, determine the mode and manner of crossing as provided in sec. 1797—12*e* of the statutes. The questions for consideration are, therefore, whether the Clark street crossing requires improvement and the installation of some safety device, and whether the train service at Unity is adequate.

Train Service.

The time table of the respondent's line dated June 1, 1913, which was placed in evidence, shows that the train service then afforded at Unity was as follows:

	Southbound.			
	Train No. 112	Train No. 144	Train No. 6	Train No. 104
Leave Ashland	7:30 a. m.	.....	.....	7:20 p. m.
Unity	12:29 p. m.	2:37 p. m.	8:32 a. m.	.....
Spencer	12:42 p. m.	3:15 p. m.	8:50 a. m.	12:10 a. m.
Milwaukee	7:30 p. m.	.....	3:30 p. m.	6:55 a. m.
	Northbound.			
	Train No. 111	Train No. 143	Train No. 5	Train No. 103[1]
Leave Milwaukee	7:30 a. m.	.....	12:10 p. m.	8:50 p. m.
Spencer	1:55 p. m.	6:30 a. m.	6:48 p. m.	3:15 a. m.
Unity	2:06 p. m.	7:20 a. m.	7:01 p. m.	.....
Ashland	6:55 p. m.	.....	.....	8:00 a. m.

[1] Does not stop at Unity.

Since the hearing trains No. 143 and No. 144 have been withdrawn from service. It was stated that under the schedule then

in force it was impossible to reach Wausau or Neillsville, the county seats of the two counties in which the village of Unity lies, and return the same day, with sufficient time for the transaction of business. An examination of the time tables shows that to reach Neillsville a passenger must leave Unity at 8:32 a. m. ariving at Marshfield at 9:10 a. m., changing there to the Chicago, St. Paul, Minneapolis & Omaha Railway Company's line, leaving at 10:40 a. m. and arriving in Neillsville at 11:29 a. m. To return the same day he must leave Neillsville at 1:35 p. m. arriving at Marshfield at 2:30 p. m., and wait there until 6:30 p. m. for the respondent's train which reaches Unity at 7:01 p. m. To reach Wausau from Unity a passenger can leave at 12:29 p. m. arriving at Marshfield at 1:04 p. m., connecting with the Chicago & North Western Railway Company's train at 2:45 p. m., arriving in Wausau at 5:20 p. m. He cannot return the same evening. The next day he can leave Wausau on the Chicago, Milwaukee & St. Paul Railway Company's line at 10:30 a. m., arriving at Junction City at 11:50 a. m., changing there to the respondent's train which leaves at 12:56 p. m. and reaches Unity at 2:05 p. m. The earliest connecting train from Wausau on the Chicago & North Western Railway Company's line leaves there at 2:45 p. m., arriving in Marshfield at 4:10 p. m., when a passenger must wait until 6:30 p. m. for the respondent's train which arrives at Unity at 7:01 p. m. If trains Nos. 103 and 104 stopped at Unity, passengers would have to leave there at about midnight reaching Neillsville at 4:18 a. m., and returning would have to leave Neillsville at 1:35 p. m., arriving in Marshfield at 2:30 p. m. and would have to wait there four hours for the respondent's train which leaves at 6:30 p. m. and arrives at 7:01 p. m. in Unity. Or if they so desired they could remain in Neillsville until 11:55 p. m., arriving in Marshfield at 12:45 a. m., and waiting there two hours for the repondent's train which connects with train No. 103 at Spencer, leaving Marshfield at 2:45 a. m. and arriving in Unity about 3:30 a. m. With the service of trains No. 103 and No. 104 a passenger for Wausau could leave Unity at about midnight, arriving in Marshfield at 1:04 a. m., but would have to wait seven hours for the Chicago & North Western Railway Company's train at 8:30 a. m., arriving in Wausau at 10:05 a. m. He could return at 2:45 p. m. or 10:18 p. m., arriving in Unity at 7:01 p. m. or about 3:30 a. m.

Witnesses for the petitioner also complained that a business trip to the Twin Cities from Unity consumes three days. To make such a trip on the respondent's line a passenger must leave Unity at 8:32 a. m., reaching Minneapolis at 4:40 p. m., too late for business purposes. If he remains there the following day until after 7:45 a. m. he cannot reach Unity until 2:06 p. m. on the third day.

Upon cross-examination of witnesses for the petitioner it was shown that residents of Unity can use train No. 104 by taking the train which passes Unity at 7:01 p. m. and waiting at Colby or Abbotsford, for about four hours until train No. 104 arrives. They stated, however, that persons desiring to use the night trains usually drive to Colby or Spencer. A liveryman testified that he makes about fifteen trips a week to and from Spencer or Colby to carry passengers for trains No. 103 and No. 104, who would take these trains at Unity if they stopped there. He estimated that he carries about half of those who drive to these stations to take the night trains.

Trains No. 103 and No. 104 are operated only between Ashland and Spencer, but carry through sleeping cars between Chicago and Ashland. The company's train master testified that these trains are operated as an integral part of its limited service between Chicago and Ashland. Day coach passengers, baggage and freight are transferred at Spencer. A period of 37 minutes elapses between the scheduled time of arrival at Spencer of trains No. 104 and No. 4. Witnesses for the petitioner urged that this waiting period allows sufficient time in which to make the stop at Unity, but the company's train master testified that this amount of time is necessary for the transfer of baggage and the shifting of the sleeping car to a position where it may be attached to the main line train.

The testimony shows that the village of Unity has a population of about 363 persons and is surrounded by a prosperous farming community. It was estimated by a witness that about 2,000 people are naturally tributary to this station for railway service. The station is located 6.7 miles from Spencer, 6.6 miles from Abbottsford, and 3.9 miles from Colby, the latter being a flag stop for trains No. 103 and No. 104.

A careful examination of the testimony and of the railway time tables bearing on this case shows that the relief prayed

for would not materially improve the service between Unity and the county seats at Wausau and Neillsville, though it would increase the convenience of longer trips to the Twin Cities or to Milwaukee or Chicago. The use of these trains in going to and from the county seats would probably be very slight, since it would involve long waits at unusual hours of the night. A few persons in times of necessity might use such service, but many people would prefer to make a two day's trip than to travel at night with long waits at junction points. It should also be noted that the inability of persons to reach the county seats and return the same day with sufficient time for the transaction of business is not primarily due to poor service on the respondent's line, but rather to the lack of close connections with the lines of other companies. Furthermore, such trips would yield a very slight revenue to the respondent, since it would transport passengers only to Marshfield, a distance of 15.5 miles from Unity. It is not clear that there would be sufficient travel to the Twin Cities or other distant points from Unity to warrant stopping these trains.

The trains which it is now sought to stop are a part of the limited service of the respondent between Chicago and Ashland and should therefore not be subjected to unnecessary delays for local stops. It is our judgment, therefore, that the train service now rendered at Unity is reasonably adequate.

Clark Street Crossing.

Clark street runs east and west, crossing the respondent's single track at right angles. From the west highway approach the view to the north is obstructed by a feed store located about eighty feet from the track and by some small buildings on the company's right of way. To the south the banks of a cut which vary in height from seven to fifteen feet partially obstruct the view of trains. From the east highway approach the north view is somewhat obstructed by the depot buildings and by other buildings nearer the highway. To the south the vision is limited by a building and by the banks of the cut. However, these obstuctions are not very serious and the view in general is fairly good. Our engineer reports that at a point in the highway seventy-five feet west of the track a north view is afforded eight hundred or one thousand feet from the crossing and that

from a similar point east of the track a traveler can see from seven hundred to eight hundred feet to the north. The testimony shows that the village has improved the street up to the railway property and that the company has not graded the highway over its right of way as desired by the village. Clark street is sixty feet wide and has a traveled driveway of forty-six feet in width. The culvert on the right of way allows for only a twenty feet roadway, making the highway dangerously narrow at this point.

Unity is the business center for a prosperous farming community and most of the traffic to it crosses the track at Clark street. The school is located east of the railroad and about seventy-two children live west of the track in the village in addition to those who come in from the country. A count was made for the petitioner on August 12 and 13, 1913. On August 12, 803 crossings, including pedestrians, teams, automobiles, etc., were noted. Au August 13, the traffic was segregated as follows:

Pedestrians	729
Double teams	48
Single rigs	68
Automobiles	25
Bicycles	30

There are now six regular passenger trains and four regular freight trains scheduled over this crossing, in addition to which some extra freights are run. All trains except Nos. 103 and 104, which pass at a late hour of the night, two time freights and the extra freights stop at the depot, and consequently pass the crossing at comparatively low speed. Several narrow escapes from accidents were reported.

Our engineer has investigated the conditions at Clark street and recommends that the highway within the limits of the right of way be properly surfaced and graded to conform in width and condition to the adjacent portions of the street. This will make necessary the use of a wider culvert than the one now installed.

It is the plain duty of the respondent, under the statutes, to place that part of the highway which lies within its right of way lines in substantially as good condition with respect to surfacing and grading as the adjacent portions of the highway (sec. 1299*h*—1, ch. 102, laws of 1907). If the highway is improved

to comply with these conditions it will, in our opinion, be reasonably safe under the existing traffic conditions without further protection.

IT IS THEREFORE ORDERED, That the respondent, the Minneapolis, St. Paul & Sault Ste. Railway Company, provide a roadway within its right of way lines at Clark street in the village of Unity which shall be surfaced and graded in substantially the same manner as the adjacent portions of the highway, which shall have a crown as wide as the full traveled roadway in the adjacent portions of the highway, and which shall be properly drained.

IT IS FURTHER ORDERED, That the portions of the complaint which refer to crossings other than the Clark street crossing, and to the train service, be and the same are hereby dismissed.

Four months is considered a reasonable period of time within which to comply with this order.

TRI-STATE TELEPHONE AND TELEGRAPH COMPANY

vs.

ST. CROIX FARMERS' MUTUAL TELEPHONE COMPANY.

Submitted Nov. 8, 1913. Decided Dec. 22, 1913.

The petitioner alleges that the respondent on Aug. 16, 1913, commenced to build telephone lines into the village of Grantsburg for the purpose of competing with the petitioner for local business contrary to the provisions of ch. 610, laws of 1913. The respondent admits that it connected the telephone of one of its shareholders in the village of Grantsburg with its lines but contends that this act was not in violation of ch. 610, laws of 1913. The telephone involved has since been disconnected.

The contention of the respondent that it is entitled to enter the village and compete with the petitioner by virtue of a franchise granted by the village is untenable, for the authority to operate a telephone utility is, under the statutes, derived from the state and not from any local branch of the government. *State ex rel. Smythe v. Milwaukee Ind. Tel. Co.* 133 Wis. 588.

The fact that the persons to whom the respondent desires to extend its service are shareholders, is immaterial, for service must be rendered to shareholders upon the same terms and conditions as to other subscribers.

Held: The respondent's action in extending its service to an individual within the limits of the village without previously obtaining authority from the Commission, as required by sec. 1797*m*—74 of the statutes, was illegal. Inasmuch, however, as the telephone installed in the village by the respondent has been disconnected, there is no present violation of the statute. The instant complaint is therefore dismissed, but should any extensions be made in the future without the procedure proper under the statutes it will become the duty of the Commission to report such violations to the attorney-general for prosecution.

The petitioner, a corporation operating a telephone business in the village of Grantsburg, Burnett county, alleges in substance that on August 16, 1913, the respondent, the St. Croix Farmers' Mutual Telephone Company, commenced to build telephone lines into the village of Grantsburg, which, petitioner is informed and believes, are for the purpose of competing with its local business; that such construction is in violation of ch. 610 of the laws of 1913, and that the petitioner is furnishing and is willing to furnish switching service and connections to all

rural line telephone companies desiring the same at reasonable rates. The Commission is therefore asked to order the respondent to refrain from building or operating any telephone lines in the village of Grantsburg, and if desired by the respondent, to order the establishment of a connection between the two companies at the corporate limits of the village.

The respondent, in its answer, alleges that it did extend its lines into the village of Grantsburg during the month of May, 1906, pursuant to a franchise granted it by the village under date of May 14, 1906. It denies that it has made any extension of its lines in the village of Grantsburg subsequent to July 10, 1913, except to connect the telephone of a shareholder of the respondent company, which act, it believes, was not in violation of ch. 610 of the laws of 1913. The dismissal of the complaint is therefore asked.

A hearing was held on November 8, 1913, at Grantsburg. *Harlan P. Roberts* appeared for the petitioner, and *F. R. Huth* for the respondent.

It appears from the testimony that in November 1912 the St. Croix Farmers' Mutual Telephone Company strung a wire to the village hall in the village of Grantsburg, but that it has not installed a telephone there. In August 1913 it constructed a line to and installed a telephone in a barn belonging to one of its shareholders in Grantsburg. This telephone was subsequently disconnected. Respondent's officials testified that it is its intention to connect with its line such of its shareholders as reside in Grantsburg. They asserted that they have a right to make such connections, and to establish an exchange in Gransburg if they so desire, by virtue of a franchise granted them by the village, a certified copy of which was offered in evidence. No evidence was introduced to show that the respondent had done a local telephone business in Grantsburg prior to August 1913.

The president of the petitioning telephone company testified that his company operates a switchboard in Grantsburg with which are connected 128 telephones, including 13 rural telephones. It also has connection with a number of rural lines, and is willing to grant a similar connection with other rural lines which may desire it.

The contention of the respondent, that it is entitled to enter the village and compete with the petitioner by virtue of a franchise granted by the village, is certainly untenable, for the authority to operate a telephone utility is, under the statutes, derived from the state and not from any local branch of the government. *State ex rel. Smythe v. Milwaukee Ind. Tel. Co.* 1907, 133 Wis. 588, and cases cited in opinion of court. Furthermore, under sec. 1797*m*—74 of the statutes it is made unlawful for any telephone company to extend its service into a territory already occupied by another company without bringing the matter before and obtaining authority of the Commission. The petitioner in this case is clearly in possession of the field in the village of Grantsburg, since no similar service had been rendered there by the respondent or any other telephone company prior to the passage of the statute in question. The respondent's action in extending its service to an individual within the limits of the village, without previously complying with the provisions of the statute, was therefore illegal. It is immaterial that the persons to whom it desires to extend its service are shareholders, for such service must be rendered them on the same terms and conditions as to the other subscribers. It appears that the telephone installed by the respondent in the barn of one of its shareholders in the village has been disconnected, and there is therefore no present violation of the statute. Should any extensions be made in the future, however, without the procedure proper under the statutes, it will become the duty of the Commission to report such violations to the attorney-general for prosecution.

IT IS THEREFORE ORDERED, That the complaint herein be and the same is hereby dismissed.

TOWN OF LA PRAIRIE
vs.
CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted Sept. 5, 1913. Decided Dec. 22, 1913.

The petitioner alleges that two highway crossings on the respondent's line in the town of La Prairie, Rock county, known, respectively, as the "South Janesville crossing" and "Woodman's crossing," are dangerous.

Held: The crossings are dangerous. The respondent is ordered to station a flagman at the South Janesville crossing who shall be on duty from 7 a. m. to 9:15 p. m. daily from May 1 to Nov. 30, and from 7 a. m. to 7 p. m. daily, for the remainder of the year; and to install and maintain at the crossing, subject to plans submitted to the Commission for approval, an electric bell with illuminated sign which shall operate during the hours when the flagman is not on duty. The respondent is further ordered to replace the board wing fence at Woodman's crossing with a suitable woven wire fence. It is suggested that the town authorities remove the obstructing brush and trees along the highway at this point.

The petitioner, a regularly organized town in Rock county, alleges in substance that two highway crossings on the respondent's line are dangerous to public travel. They are designated as follows:

1. The South Janesville crossing, located about two and one-half miles southeast of the respondent's Janesville station.

2. Woodman's crossing, located about three miles northwest of the station at Shopiere.

The Commission is therefore asked to take such action as it deems proper in the premises.

The respondent, in its answer, alleges that at the South Janesville crossing the view of approaching trains in either direction is clear; and that at Woodman's crossing the view is unobstructed except for a few scattered trees in the southeast corner which do not materially interfere with the view. It therefore asks that the petition be dismissed.

A hearing was held on September 5, 1913, at the city hall at Janesville. *S. G. Dunwiddie* appeared for the petitioner and *W. G. Wheeler* for the respondent.

South Janesville Crossing.

The testimony shows that at this crossing the railway runs southeast and northwest and the highway north and south. The road crosses two main tracks and two sidetracks, the latter leading to the South Janesville yards. From the south highway approach the view to the southeast is obstructed by a low bank and by corn growing in the adjacent field. To the northwest the view is limited by a low bank and by trees outside of the right of way. From the north highway approach the view in both directions is comparatively clear. The limits of vision from the south highway approach are reported by our engineer as follows:

Distance of point of observation in highway from northbound main tracks.	View southeast.	View northwest.
South 50 feet	500 feet	800 feet
" 75 "	200 "	200 "
" 100 "	200 "	400 "
" 200 "	200 "	500 "

The highway is a main traveled road leading from Janesville to Beloit, and is used to a considerable extent by automobiles, especially during the summer months. No specific estimates of the highway traffic were made by witnesses. A count was made by the Commission's engineer on December 19, 1913, from 6:00 a. m. to 9:30 p. m., during which period there were noted 41 teams, 9 automobiles, 16 pedestrians, 14 passenger trains, 4 freight trains and 41 switching movements. After 6:00 p. m. only 3 teams and one automobile crossed. It is probable that the traffic at the time this count was taken was below the average. There are thirty regular trains operated over this crossing of which thirteen move after dark. None of the thirteen passenger trains stop at the South Janesville yards. In addition to the regular trains a large amount of switching is done, and this was said by witnesses to add materially to the danger since the movement of switch engines is apt to divert the attention of travelers from main line trains. The acute angle of crossing also increases the danger to highway traffic. The town

chairman expressed the opinion that a bell would not furnish satisfactory protection because of the noise of switching and the confusion occasioned by it. Several serious accidents and narrow escapes were described at the hearing.

Our engineer, after an investigation of the situation, recommends that a flagman be stationed at the crossing during the day, and that an automatic electric bell with illuminated sign be installed to operate when the flagman is not on duty. He suggests that the circuits of this bell and light should be comparatively short on the two yard tracks and should not include the engine house or repair tracks, since the movements over these tracks are slow, and almost exclusively during the period when the flagman would be on duty.

Woodman's Crossing.

The testimony shows that at Woodman's crossing the single track line of the respondent runs northwest and southeast, crossing a north and south highway. The chief obstructions to the view are a low bank, a board wing fence and weeds northwest of the crossing. There is also a bank southeast of the highway, and the view is further limited in season by corn growing in the adjacent fields. Our engineer states in his report that trees and brush along the highway and the board wing fences on the railway right of way add to the obstruction of the view. He reports the limits of vision as follows:

Distance of point of observation in highway from track.	View northwest.	View southeast.
South 50 feet	2 miles	1 mile
" 75 "	1000 feet	¼ "
" 100 "	400 "	400 feet
" 200 "	1 mile	½ mile
North 50 "	1 "	1 "
" 75 "	1 "	¼ "
" 100 "	½ "	½ "
" 200 "	2 "	½ "

No specific estimates of the traffic over this crossing were given at the hearing, but witnesses stated that the road is well

traveled. There are twenty-one regular train movements over the crossing, of which nine pass at night. Several narrow escapes at this point were described.

From a careful consideration of the testimony and of the reports of our engineering staff, we find that each of the crossings under consideration is more than ordinarily dangerous. At the South Janesville crossing we regard the combined protection afforded by the bell and flagman, recommended by our engineer, as necessary for the proper protection of public travel. From May 1 to November 30 the flagman should be on duty from 7:00 a. m. to 9:15 p. m., but during the remainder of the year we believe that the highway traffic passing after 7:00 p. m. will be sufficiently safeguarded by the bell and light. Conditions at the Woodman's crossing can be made reasonably safe, in our judgment, by removing the brush and trees along the highway and replacing the board wing fence by a woven wire fence. We suggest, therefore, that the town authorities take the necessary steps to remove the obstructing brush and trees.

IT IS THEREFORE ORDERED, That the respondent, the Chicago & North Western Railway Company, station a flagman at the South Janesville crossing about two and one-half miles southeast of its Janesville station in the town of La Prairie, who shall be on duty from 7 a. m. to 9:15 p. m. daily from May 1 to November 30, and from 7 a. m. to 7 p. m. daily for the remainder of the year; and install and maintain there, subject to plans submitted to the Commission for approval, an automatic electric bell with an illuminated sign for night indication, which shall operate during the hours when the flagman is not on duty.

IT IS FURTHER ORDERED, That the said respondent railway company replace the board wing fence at Woodman's crossing about three miles northwest of its station at Shopiere in the town of La Prairie with a suitable woven wire fence.

Four months is considered to be a reasonable time within which to install the bell and light ordered herein.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF THE RULES, REGULATIONS, AND PRACTICES OF THE CHIPPEWA VALLEY RAILWAY, LIGHT & POWER COMPANY IN FORCE IN THE CITY OF EAU CLAIRE, WISCONSIN.

Decided Dec. 30, 1913.

The order issued Nov. 4, 1913, 13 W. R. C. R. 19, in this matter was suspended for one month upon application of the utility to enable it to so adjust conditions that the regular commercial lighting schedule could be put into effect. This adjustment has now been made and as the regular lighting schedule appears to be reasonable and as it abolishes certain discriminatory features which have existed for some time it appears that this schedule with certain modifications should be placed in effect. The order of Nov. 4, 1913, is therefore revoked and the utility is ordered to put into effect the schedule in question as prescribed by the Commission.

SUPPLEMENTARY ORDER.

On November 4, 1913, an order was issued in the above entitled matter (13 W. R. C. R. 19) eliminating to some extent certain discriminatory features of the old schedule which provided a lower rate in case electricity was used exclusively for lighting purposes. Upon application of the company this order was suspended for one month to enable the company to so adjust conditions that the regular commercial lighting schedule could be put into effect. As this adjustment has now been made and as the regular lighting schedule appears upon examination to be reasonable, and as it abolishes certain discriminatory features which have existed for some time, it appears to us that this schedule with certain modifications should be placed in effect.

IT IS THEREFORE ORDERED, That the order in the decision dated November 4, 1913, shall be and hereby is revoked.

IT IS FURTHER ORDERED, That the Chippewa Valley Railway, Light and Power Company shall abandon its present schedule of rates for electric lighting and place in force the following

LIGHTING SCHEDULE.

Residences.

In all residences the rate shall be 15 cts. per month for each 50 watt unit, or its equivalent, of active connected load and 3 cts. per kw-hr. for all current consumed. The active load shall be based on the lamps connected, excluding appliances, and shall be assessed as follows:

60 per cent of the first 500 watts.
33⅓ per cent of all in excess of 500 watts.

Business.

Commercial lighting shall include retail and wholesale mercantile establishments, saloons, restaurants, depots and all other consumers not herein otherwise specifically provided for. Such lighting will be done by means of approved incandescent lamps, or by six ampere a. c. arc lamps, at the option of the consumer, and the prices for such lighting shall be as follows:

Incandescent Lighting: The rate for business incandescent lighting shall be 15 cts. per month for each 50 watt connected capacity, or its equivalent, and 3 cts. per kw-hr. for all current consumed; provided that to all consumers using not more than 100 per cent nor less than 10 per cent of their total connected interior capacity for window display purposes, all lights so used shall be considered and paid for as non-active lights, at the rate of 3 cts. per kw-hr. for the current consumed. In case the capacity of the window lights exceeds the interior lights, such excess shall be paid for under the meter rate for window lighting.

Arc Lighting: The rate for business arc lighting shall be 45 cts. per month for each six ampere a. c. arc lamp connected, plus 3 cts. per kw-hr. for all current consumed.

Window, Sign and Advertising Lighting, where not connected with interior lighting, shall be paid for under either of the following schedules.

A. Flat rate for unmetered window, sign and advertising lighting contracted to burn according to the schedule tabulated below on yearly contracts. Lights to be turned on and off by the company.

Lighting Schedule.

	On	*Off*
Jan. 1–15	4:10	11:30
" 16–31	4:30	11:30
Feb. 1–15	4:45	11:30
" 16–28	5:00	11:30
Mar. 1–15	5:30	11:30
" 16–31	6:00	11:30
Apr. 1–15	6:30	11:30
" 16–30	6:50	11:30
May 1–15	7:10	11:30
" 16–31	7:30	11:30
June 1–15	7:50	11:30
" 16–30	8:00	11:30
July 1–15	8:00	11:30
" 16–31	7:50	11:30
Aug. 1–15	7:40	11:30
" 16–31	7:25	11:30
Sept. 1–15	7:00	11:30
" 16–30	6:20	11:30
Oct. 1–15	5:35	11:30
" 16–31	4:50	11:30
Nov. 1–15	4:10	11:30
" 16–30	4:00	11:30
Dec. 1–31	3:45	11:30

Watts	*Price*	*Watts*	*Price*
5	$0.42	60	$4.92
25	2.04	100	8.16
40	3.24	150	12.24
50	4.08	250	20.52

B. Meter rate: 10 cts. per month per 50 watt connected capacity plus 3 cts. per kw-hr. for all current consumed.

Hotels, Clubs and Boarding Houses: The rate shall be 15 cts. per month for all active lights and 3 cts. per kw-hr. for all current consumed. In this class 55 per cent of the connected load shall be deemed active.

Auditoriums, Dancing Halls, Opera Houses, Lodge Rooms, Churches, Y. M. C. A., Warehouses, Warerooms or Wholesale and Jobbers' Houses and Manufacturing Plants: The rate shall be 15 cts. per month for one-third of all connected units of 50 watts or its equivalent and 3 cts. per kw-hr. for all current consumed, provided that all lights in general offices and clerical rooms of this class shall be rated as active lights.

Equipment and Renewals.

In all foregoing rates, unless otherwise specifically stated, the consumer shall furnish and renew all lamps, except arc lamps, and all switching and wiring on the premises, and the company

shall furnish arc lamps, transformers, meters and sufficient wiring, pole line and other equipment necessary to deliver the current to the premises.

Flat Rates.

The company shall not be required, at its own expense, to furnish or install meters for any consumer using less than five 50 watt units, or the equivalent thereof, in any one building, and shall be authorized to charge consumers using three or more such units a flat rate of 30 cts. per month per unit in residences and 50 cts. per month per unit in business places; or the company may, at its own expense, install a meter for any such consumer, in which event the rate shall be as specified in the above classification.

Minimum Rate.

The company shall be authorized in every case where a meter is installed to make a minimum charge of $1.00 per month, and to flat rate customers a minimum charge of 90 cts. per month in residences and $1.50 per month in places of business.

Maximum Rate.

The maximum rate, except where authorized by the minimum charge heretofore provided for, shall in no instance exceed 9 cts. per kw-hr.

These rates shall go into effect January 1, 1914.

IN RE APPLICATION OF THE ENDEAVOR ELECTRIC LIGHT AND POWER COMPANY FOR AUTHORITY TO INCREASE RATES.

Submitted Sept. 30, 1913. Decided Dec. 30, 1913.

The Endeavor El. Lt. & P. Co. applies for authority to increase its rates for electric current. The plant is operated in connection with a creamery and in fixing the rates the management underestimated the cost of conducting the electric business. A valuation was made and the revenues and expenses were investigated. It was found that the utility is operating at a loss under the present rates and that even the rates proposed by the utility will fail to yield a fair return and will probably be insufficient to cover depreciation and other operating expenses.

Held: Though a somewhat different schedule of rates might be recommended, the schedule proposed by the utility is not unreasonable. The utility is therefore authorized to put this schedule into effect.

Application in this case was filed July 5, 1913. Applicant is a public utility engaged in the management and operation of a light and power plant in Endeavor, Wis. As stated in the application, the present rates for electric current are 10 cts. per kw-hr. for the first 20 kw-hr. per month and 8 cts. per kw-hr. for the excess. The rates filed with the Commission indicate that the 8 ct. rate applies to 10 kw-hr. per month only, but according to the application in this case this rate applies to all consumption above 20 kw-hr. per month.

The applicant states that the existing rates are only sufficient to cover actual cost of fuel and repairs, without meeting the cost of labor, or providing for interest on investment. The applicant further states that it knows of no objection on the part of its patrons to the increase asked for, and it asks for authority to put into effect the following schedule of rates:

15 cts. per kw-hr. for the first 30 kw-hr. per month.

10 cts. per kw-hr. for the excess.

Hearing was held at Madison, September 30, 1913. *Wm. H. Burwell* appeared for the applicant. There was no appearance in opposition.

Testimony dealt with the conditions of plant operation and

the losses sustained by the utility. The electric plant is operated in connection with a creamery. It appears that when the electric business was started the owners expected to be able to operate with very little expense above the cost of carrying on the creamery business by using a storage battery system. It has been found, however, that the conditions of operation have not been such as were anticipated and the cost of conducting the business has been considerably greater than was expected.

The reports which have been filed by the utility do not show the actual total expense chargeable to the electric department. Following is a statement of the earnings and expenditures of the Endeavor Electric Light and Power Co. for the year ending June 30, 1913, as prepared by the Commission's accounting inspector:

Earnings.		
Street lighting earnings	$58.31	
Other earnings	651.21	
Total earnings from operation		$709.52
Expenses.		
Labor expense	$637.50	
Material and other expenses		
Coal and oil	510.00	
Materials and supplies	152.40	
Total operating expenses		1,299.90
Net deficit from operation		$590.38
Interest on funded debt and notes payable		132.00
Deficit for year		$722.38

In the annual report submitted to the Railroad Commission for the fiscal year ending June 30, 1913, the amount reported as street lighting earnings is the amount subscribed for that purpose for the period from December 1, 1912, to Dec. 1, 1913. Figuring these earnings on a monthly basis, $58.31 is the amount that should be credited to earnings for the year ending June 30, 1913, and the remainder $41.69 to earnings for the year ending June 30, 1914.

Labor expense was not reported in the annual report, for the reason that the proprietors did all the work themselves. A reasonable labor cost was arrived at in the following manner: From the records kept the total number of hours the generator

was run was obtained. To this was added an hour and a half per day for the purpose of raising steam, hauling fuel, and making necessary repairs on boiler and generation equipment. Besides this amount of time two days per month were allowed for reading meters, figuring bills, collecting same, and making all necessary repairs to the distribution system. The total hours so obtained figured at the rate of 25 cts. per hour, give an amount which was considered reasonable for operating labor expense.

Approximate hours generators were run	1,762
Hours allowed for power house labor	548
Hours allowed for reading meters and dist. system labor	240
Total hours	2,550

2,550 hours at 25 cts. per hour—$637.50

The fuel cost was arrived at on the hour basis. Tests had been made of the fuel consumption with the result that approximately 100 lb. of coal were burned for each hour the generators were on. This amounted to approximately 100 tons for the year. Rated at about $5 per ton the fuel cost was about $500. Oil cost about $10.

The amount of $152.40 was other material cost not reported in the annual report. These figures were obtained from an analysis of bills on file. These bills were the only ones available at the time of the examination.

With these modifications the utility shows a deficit of $722.38 instead of a surplus of $109.21.

The methods described above for determining operating expenses are not all methods which would be followed if adequate records had been kept continuously of the finances and operation of the utility, but with the lack of utility records which existed in this case, the methods used by the inspector appear to have been the only ones feasible, and the final results not far in error.

No further analysis is needed to show that the business is an unprofitable one. Even the schedule of rates which the applicant asks to have approved would fail to yield a profit, and would probably be insufficient to meet all expenses properly chargeable against the electric business and enable the utility to make provision for depreciation.

A somewhat different schedule than the one suggested might be recommended, but it does not seem that the proposed schedule is unreasonable. No objection to it has been offered and there seems to be no objection sufficiently serious to make it advisable to reject the schedule asked for.

The cost new of the physical property of the applicant as of June 30, 1913, was placed at $6,362 in the Commission's inventory, and the present value at $5,376. Interest and depreciation, at rates which would be reasonable and adequate would be approximately $650 per year. It is evident that, unless there is an unexpected development of the business, the rates asked for will not yield even a fair return after all expenses properly chargeable to the department, have been met.

In some instances it appears that meters have been out of working order and the meter rates have been applied to an estimated consumption of current. These meters should be promptly repaired and the regular rates applied.

THE APPLICANT, the Endeavor Electric Light and Power Company, IS AUTHORIZED to discontinue its present schedule of rates for electric current and to substitute therefor the following schedule:

15 cts. per kw-hr. for the first 30 kw-hr. per month.
10 cts. per kw-hr. for the excess.

IN RE DETERMINING AND FIXING A JUST COMPENSATION TO BE PAID TO THE MANITOWOC ELECTRIC LIGHT COMPANY BY THE CITY OF MANITOWOC FOR THE PROPERTY OF SAID COMPANY ACTUALLY USED AND USEFUL FOR THE CONVENIENCE OF THE PUBLIC.

Decided Jan. 2, 1914.

This is a proceeding to determine the compensation to be paid in the purchase of the property of the Manitowoc El. Lt. Co. by the city of Manitowoc. Valuations made by the engineering staff of the Commission and by the city are considered and compared in detail. The company submits no valuation of the property as a whole but attacks the reasonableness of the values placed on certain items in the valuation made by the Commission. Some of the land used in the operation of the utility is owned by a private individual, Mr. John Schuette. The city has agreed with Mr. Schuette to purchase part of this land and to lease part, and also to lease certain equipment used in connection with the plant.

The contention that the smoke stack and certain other equipment located on the land mentioned should be charged to a feed and flour mill to which the electric plant sells mechanical power, on the theory that, if it were not for the power supplied to this mill the equipment in question would not have to be so large or extensive, is not sustained by the facts. It appears that all of this equipment is necessary to meet the maximum demands of the plant during the winter months, and that during the maximum peak demand no power is supplied to the mill.

In obtaining the cost of reproducing equipment which is no longer on the market, consideration must be given to the cost new of modern equipment designed to do the same work. The present value, however, of obsolete equipment which is still in use and rendering fair service would seem to be something above scrap value.

Some consideration must be given in fixing the fair value of the utility to the fact that continuous construction under contract may be less expensive than piecemeal construction, but it does not seem that this fact can be properly considered as an element in determining the cost of reproducing the physical plant.

Correct accounting demands that there be set aside each year for depreciation an amount equal to the decrease in the value of the property due to wear and tear, obsolescence, inadequacy, etc., in order that the capital be kept intact and the present value of the property be correctly shown.

In arriving at the fair value of the property of a utility for purposes of purchase there are several elements besides the original cost, the original cost less depreciation, the cost of reproduction, and the cost of reproduction less depreciation which must be taken into consideration. These include, among other things, the outstanding indebtedness, the gross and net earnings of the plant, and its going value.

Held: The compensation to be paid to the electric light company and Mr. Schuette for the taking of property used and useful for the convenience of the public, exclusive of the stock and material on hand and additions made to the plant since Jan. 1, 1913, is $137,500, of which $600 is to be paid to Mr. Schuette upon delivery by him to the city of a deed to certain land owned by him but necessary to the operation of the utility. The city is ordered to pay the just compensation fixed within three months from date and, in addition, to pay to the company such price as may be agreed upon between the parties or, in the event that the parties are unable to agree, fixed by the Commission, for the material on hand at the date of the taking of the plant and for new additions made to the plant since Jan. 1, 1913, with interest at 6 per cent per annum until the compensation is paid. The agreement entered into by the city with Mr. Schuette for the lease of certain land and equipment is approved.

On November 29, 1912, the city clerk of Manitowoc, in accordance with a resolution passed by the mayor and board of aldermen, notified the Commission that the city of Manitowoc had determined, by a vote of the majority of the electors voting on the question at the general election held in and for said city on November 5, 1912, to acquire by purchase the electric light plant of the Manitowoc Electric Light Company located and existing in said city, which company had consented to the taking over of its plant by the municipality by the acceptance of an indeterminate permit under the provisions of ch. 499 of the laws of 1907 and acts amendatory thereof and supplementary thereto.

Upon receipt of the above notice a valuation of the physical property of the utility was made and a hearing was set for February 17, 1913, at the office of the Commission at Madison. At this hearing the parties appeared and requested a continuance until a later date. This request was granted and the hearing was set for and held on May 16, 1913, at the school board room of the city hall, Milwaukee. *H. F. Kelley* appeared for the city of Manitowoc and *Emil Baensch* for the Manitowoc Electric Light Company. On August 9 *Mr. Kelley* submitted a brief for the city and on August 14 *Mr. Baensch* submitted one for the company.

After the Commission determined the value of all the property actually used and useful for the convenience of the public, it became necessary for the city to enter into negotiations with Mr. John Schuette for the purchase or lease of a part of said property which belonged to him individually, and upon enter-

ing into agreements with him respecting the same, the city applied to the Commission for a rehearing for the purpose of obtaining the approval of said agreements by the Commission, which application was duly granted. By stipulation of the parties the matters involved upon the rehearing were submitted on January 2, 1914, for determination.

A valuation of the physical property of the Manitowoc Electric Light Company was made by the engineering staff of the Commission as of date January 1, 1913, and revised in the month of April, 1913. A summary of the revised valuation follows:

Classification.	Cost new.	Present value.
A. Land	$5,000	$5,000
B. Transmission and distribution	78,698	63,976
C. Buildings and miscellaneous structures	10,765	9,048
D. Plant equipment	55,086	35,493
E. General equipment	1,298	966
Total	$150,847	$114,483
Add 12 per cent (see note below)	18,102	13,738
Total	$168,949	$128,221
F. Paving		
Total	$168,949	$128,221
H. Materials and supplies	4,759	4,549
Total	$173,708	$132,770

NOTE:—Addition of 12 per cent to cover cost of engineering, superintendence, interest during construction, contingencies, etc.

The city entered a general objection to the cost of reproduction and present value of the whole plant as set forth in the valuation of the engineering staff, alleging that the results obtained were excessive, and entered specific objections to certain items which will be taken up in detail. In support of its contention the city submitted a valuation made by Mr. S. H. Martin of Chicago, a summary of which is given below. Mr. Martin did not undertake to place a value on the items land, general equipment, and materials and supplies, but accepted the engineering staff's figures for the purpose of obtaining a total that would be comparable with our engineering staff's total, as is noted in the following summary:

VALUATION OF S. H. MARTIN.

Classification.	Cost new.	Present value.
A. Land (Commission's value)	$5,000 00	$5,000 00
B. Transmission and distribution	72,800 00	58,240 00
C. Buildings and miscellaneous structures	9,500 00	7,500 00
D. Plant equipment	48,050 00	29,027 50
E. General equipment (Commission's value)	1,298 00	966 00
Total	$136,648 00	$100,733 50
Add 12 per cent (see note below)	16,397 76	12,088 02
Total	$153,045 76	$112,821 72
H. Materials and supplies (Commission's value)	4,606 00	4,422 00
Total	$157,651 76	$117,243 72

NOTE:—Addition of 12 per cent to cover cost of engineering, superintendence, interest during construction, contingencies, etc.

The company offered no testimony as to the cost of reproduction and present value of the physical property, but confined its attention to certain items of the engineering staff's valuation, maintaining that they were too low. The contentions of both parties are set forth in the following consideration of the various groups of items in the valuation.

Land:—The value of the land occupied by the company's plant is given in the staff's appraisal as $5,000. This covers lot 5 of block 218 which is owned by the company and valued at $4,400. It also includes a portion of lot 6 which is occupied by the stack and part of the building of the company but which is owned by Mr. John Schuette. Counsel for the city in his written argument contends that the value placed on land is too high and cites the assessed value of the adjoining lots. These lots were assessed at $3,100 and $3,300. The value of lot 5 has been placed at $4,400 resulting in a ratio of assessed to actual value of about 75 per cent, which is the usual ratio. The price placed on land by the tax assessor is not a satisfactory measure of value, for the reason that it attempts not to show the full value, but to maintain a just proportionate value between different pieces and classes of property. The method used by the Commission need not be given here as it is described fully in *State Journal Printing Co. et al. v. Madison Gas & Electric Co.* 1910, 4 W. R. C. R. 501, 528. From the facts presented we can see no reason for changing the value as fixed by the staff.

The power station occupies all of the front of lot 5, so that in delivering coal to the boiler room it is necessary to cross either

lot 4 or lot 6. The flour and feed mill owned by Mr. John Schuette is located on lot 6, whereas the mill warehouse is located on lot 4. It appears from this that it would be to the mutual advantage of both properties to have a continuous driveway over and through lots 4, 5, and 6 about as follows: along and over the west ten feet of lot 4 from Quay street to the Manitowoc river, thence west along the north ten feet of lots 5 and 6 to 9th street.

Distribution System.—The engineering staff placed the cost new of the distribution system at $78,698 and the present value at $63,976. In the city's valuation the cost new was placed at $72,800 and the present value at $58,240. At the hearing Mr. Martin explained that he used $2,600 per mile as a unit price and estimated from the city map that there were 28 miles in the distribution system. He, however, claims no exactness for the number of miles. In determining the unit price he used as a basis the cost in one of the plants in the construction of which he and his associates were interested. That being an a. c. plant he "added a few hundred dollars to make up for the additional wire in the d. c. system of Manitowoc". The staff in making its valuation listed every piece of material, fixed a price for each separately and determined from inspection the extent of the depreciation of each item. Compared with such a method, it does not seem to us that the one used by the city can be seriously considered, for though satisfactory for comparative purposes, it is intended merely to represent an average condition. The number of consumers per mile of wire, the exact number of miles or units, the size of the poles, the character of the construction, and any number of other factors might cause the system at Manitowoc to deviate from the average. We cannot see how such a figure can represent the cost of reproducing the system under consideration, except in a rough way which is not at all satisfactory for the purpose at hand.

The city at the hearing objected to the price placed on poles but offered no testimony to support its contention. It might be explained here that the price of poles new is based on lake port figures, tested by local inquiry.

From the facts presented we cannot see any reason for changing the value placed on the distribution system.

Buildings and Miscellaneous Structures.—In the staff's valuation the cost new of the buildings and miscellaneous structures

is placed at $10,765 and present value of $9,048. In the city's valuation the figures given are $9,500 and $7,500, respectively. No explanation or reason is offered for this difference. The staff's figures were based on careful measurements and detailed computations which would seem to give them considerable weight, especially in this case, because Mr. Martin seems to have made a rather hurried valuation. At the hearing he stated that his examination of the plant did not take more than an hour or two. While, of course, it is possible to gather sufficient information regarding a plant in such a short time to make a satisfactory valuation for some purposes, yet it would seem that in instances similar to this one a little more time is needed.

The smoke stack and part of the building of the plant, as explained above, are located on an adjoining lot which is not owned by the utility. Counsel for the city assumes that this part of the plant is not the property of the utility and that therefore the city does not want to purchase it. The books of the company, however, show that this stack and the addition to the boiler room were built by the company in the fall of 1908. It might be argued that some of this equipment should properly be charged to the Oriental Mills to which the electric plant sells mechanical power, on the theory that, if it were not for the power supplied to the Oriental Mills, this particular equipment would not have to be so large or extensive. The facts of the case, however, seem to indicate that all of this equipment is necessary to meet the maximum demands of the plant during the winter months, and that during such maximum peak demands no power is supplied to the Oriental Mills. In other words, power supplied to this mill is in the nature of off-peak service. Such joint operation indicates very good business judgment.

Plant Equipment.—The engineering staff has placed the cost of reproducing this part of the property at $55,086 and the present value at $35,493. The corresponding figures in the city's valuation are $48,050 and $29,027.50 respectively, resulting in a difference of $7,036 in the cost new and $6,465 in the present value. The testimony offered at the hearing by both the city and the company pertained chiefly to this part of the plant.

The city contends that the six Edison bipolar generators, which the staff placed at $5,500 cost new and $1,404 present value, are valued too high, because they have been in service over twenty years and are obsolete. Mr. Martin made the

point that the cost of reproduction of machines that are obsolete and no longer on the market should be taken as the cost new of modern up to date machines. Accordingly, he places the cost new of these particular machines at $2,400, which is less than one-half the figure used by the staff. He further holds that these generators have reached such a state of inefficiency through depreciation and obsolescence that their use should be discontinued; and that, consequently, their present value is only so much as can be gotten for them as scrap. This amount he places at $280, which is exactly one-half of the scrap value found by the staff.

In obtaining the cost of reproducing equipment that is no longer on the market it would seem that the contention of the city should be given consideration. The present value, however, of such equipment, if it is still used and is rendering fair service, though not of high efficiency, would seem to be something above scrap value. The mere fact that a machine has been in operation over twenty years is not necessarily a sign that it has no value greater than what can be gotten for it as junk to the plant that is using it. In the instant case the staff has estimated that two of these generators are in 20 per cent and four in 15 per cent condition. Accepting this estimate as a basis and computing the present value from the cost of reproduction of machines of equal efficiency on the market at the present time, we get a present value of about one-half that used by the staff, which, under the circumstances of this case, would seem to be reasonable.

The city also contends that the three other d. c. generators should be given a present value equal only to their scrap value, claiming that they are obsolete. The staff has placed one of these at 69 per cent condition, another at 60 per cent, and the third at 27 per cent. No evidence was offered at the hearing which would justify any change in the figures used by the staff.

The original plant at Manitowoc was a direct current plant. Within the last few years the outlying districts have been changed to alternating current, thus dividing the city into a. c. and d. c. areas. The city claims that the design was to include the whole city in the a. c. area, and that the plant should be materially depreciated on that account. No testimony was offered at the hearing to show that such a change was about to

take place when this proceeding was started, nor that such a complete change was necessary or even feasible. In many of the larger cities we find that the business section is supplied with direct current and the outlying districts with alternating current as a matter of economy and certainty. Authorities, however, are not agreed as to the advisability of thus dividing a city into areas to which different kinds of current are supplied. It would seem that in the case at hand no great amount can reasonably be deducted from the present value because of such a contemplated change.

At the hearing attention was called to the fact that only 3 per cent has been deducted in the tentative valuation for depreciation on equipment that was about two years old. This should have been 7 per cent, and a proper adjustment has been made accordingly.

The company objected to the valuation made by the staff, particularly to the prices fixed on plant equipment. The staff allowed $240 for installing a 300 kw. turbine. This the company claims is not enough and submits as evidence two invoices of labor and material expended on this machine. An inspection of one of these invoices shows that of the total of $1,803.15 for labor only about $210 would be properly chargeable to the installation of this turbine, the balance being wages paid to draftsmen, pipe fitters, and other labor of this sort which is included in the price of other equipment. The other invoice shows a total of $97.63 for labor and material but is not divided so as to give the amount of each. From these invoices we are inclined to believe that the amount allowed by the staff is ample.

The staff placed the cost new of a certain 78″x18′ boiler at $1,750. The company maintains that this is $600 below the price actually paid and offers as evidence a bill for $2,350 dated October 10, 1910. It must be borne in mind that we are trying to fix the cost of reproduction and not the original cost. No doubt the company paid the price it claims. Investigation shows, however, that the amount allowed is ample to cover the cost of reproducing the boiler and its installation, which, of course, is all that can be reasonably included in the cost of reproduction of the plant. We note that the price paid by the company covers the cost of breeching connections to the stack, which is not included by the staff as a cost of the boiler. It may

be that there are other items which in the same manner are accounted for by the staff in other places.

Attention was called by the company to the fact that three 66″ x 16′ boilers were listed as 60″ x 16′. This necessitates an addition of $255 to the cost new value and $64 to the present value.

The company takes exception to the value of $360 cost new and $120 present value placed on the foundations of the four old boilers and to substantiate its objection submits exhibits from its books showing that in 1896 one boiler was installed at a cost of $419.05 and another in 1902 at a cost of $531.49. Using these costs as a basis the company claims that $1,901 should be allowed for the cost new value of this item. Apparently the company is not familiar with the Commission's classification of property. The foundation is a separate item, whereas the cost of installation is included in the price of the boiler. In this instance $475 was allowed as the cost of the foundation and installation of each boiler, making a total for the four of $1,900, which is virtually the amount claimed by the company. In a similar manner the company shows from its books that the cost of installing an 18″x42″ Allis Corliss engine was $848.97, which it compares with the $360 allowed for foundations by the staff. But here again we find that the company has made no division between cost of the foundation and cost of installation. The amount actually allowed for these two items together is $736. While this amount is less than that shown by the company, we are not sure but that the company's figure covers more items than that of the staff. At least the facts presented do not show that this is not the case.

The Commission's engineers have fixed the cost new of piping at $3,052 and the present value at $2,063. The company claims that the present value is $2,234 too low. In reaching its conclusion it takes the total of an invoice, already referred to in connection with the installation cost of the 300 kw. turbine, amounting to $3,845, which sum it depreciates 3 per cent for the two years that the equipment has been in use. To this amount it adds the present value less 7 per cent of piping as it appears in the valuation of this plant as of date July 7, 1908. This gives a total of $4,297 which the company claims as a proper allowance for the present value of piping. Several fallacies are apparent in this computation. First, the 3 per cent deduction for

depreciation for two years on equipment with a life of 20 years seems to us too little; similarly, 7 per cent for 4 years is too little. We find, also, that when the new piping was put in, about $600 worth of old piping was scrapped, yet no deduction was made by the company of this amount. If those items of labor and material pertaining only to piping, which are listed in the invoice mentioned above, are added to the old piping still in use, we get $3,495 as the maximum amount that the company could reasonably claim. As with some other items already considered, there is no certainty that the items taken from this invoice do not cover other things than piping, which the staff has included in other places. At least the evidence does not seem to warrant any material change in the figures as shown in the engineers' summary.

The engineers placed a present condition of 65 per cent on piping. To this the company objects on the ground that a great deal of this piping had been installed only two years before the valuation was made. Further investigation of this item indicates that it should have been placed at 75 per cent condition, which increases the present value about $300.

The company called attention to the omission of certain overflows and wells from the valuation. A careful checking up shows that about $400 should be added on this score. The company also claims that 4 c. c. transformers were omitted. Two of these were included with the switchboard. The other two apparently were omitted, for which $59 should be added.

The company maintains that from 10 to 15 per cent should be added to the physical property because continuous construction under contract is less expensive than piecemeal construction. This point has been discussed in *Hill et al. v. Antigo Water Co.* 1909, 3 W. R. C. R. 623, 634–635, and also in *State Journal Printing Co. et al. v. Madison Gas & Electric Co.* 1910, 4 W. R. C. R. 501, 546–549; consequently there appears to be no need of repeating that discussion here. Some consideration should be given this item in determining the fair value of the utility, but it does not seem that it can be properly considered as an element in determining the cost of reproducing the physical plant.

A summary of the evidence presented shows that the cost of reproducing the plant new, exclusive of materials and supplies, should be about $166,668 and the present value $127,301.

In establishing the fair value of a plant for the purpose of mu-

nicipal acquisition, the original cost of construction together with all additions to the property down to date must be considered as an important element. If the books of the company have been accurately kept and if correct methods of accounting have been followed, the books should show the total amount expended for construction and also the extent of the depreciation of the property. Frequently we find that the book value as reported differs very much from the cost of reproduction as determined by our engineering department. Some difference is naturally to be expected, because of the variation in price. In the instant case, however, the difference is relatively small.

The following table shows the condensed balance sheets of the company for the fiscal years 1909 to 1913:

CONDENSED BALANCE SHEETS.
MANITOWOC ELECTRIC LIGHTING COMPANY.
Fiscal Years 1909—1913.

	1909	1910	1911	1912	1913
Assets:					
Cost beginning of year.....	$91,330 14	$102,892 17	$108,909 21	$161,127 19	$169,970 65
Construction and equipment current fiscal year..	11,562 03	6,017 04	52,217 98	8,843 46	5,011 20
Cash.....	1,203 46	4,698 07	391 22	2,215 70	2,960 56
Accounts receivable.....	4,022 57	5,402 60	4,844 83	6,957 95	7,794 30
Material and supplies.....	2,235 72	2,654 56	1,914 19	4,174 32	3,569 68
Prepaid insurance.....	.....	500 00	500 00	340 55	340 55
Total assets.....	$110,353 92	$122,164 44	$168,777 43	$183,659 17	$189,646 94
Liabilities:					
Capital stock, common.....	$75,000 00	$75,000 00	$75,000 00	$75,000 00	$75,000 00
Notes and bills payable....	16,000 00	16,000 00	49,000 00	47,000 00	35,000 00
Depreciation reserve.....	.....	.....	.....	.....	5,000 00
Surplus.....	19,353 92	31,164 44	44,777 43	61,659 17	74,646 94
Total liabilities.....	$110,353 92	$122,164 44	$168,777 43	$183,659 17	$189,646 94

The next table is based upon the company's annual reports to the Commission and also on a statement supplied by the company showing the original cost of the plant with the annual additions. It will be noted that in the year 1911 there was an addition of $52,159. This amount was spent in the reconstruction of the plant and distribution system and represents the difference between the total amount expended for that purpose and the cost of the old property taken out of service. If the property that was scrapped had not been deducted it would, of course, be included in the construction account twice, and would misrepresent the actual increment in the value of the plant by that amount. The additions during the other years do not seem to be abnormal, hence no explanation of them seems necessary.

STATEMENT OF ORIGINAL COST AND ADDITIONS TO PROPERTY.
1890-1913.

Year.	Cost new and additions from statement submitted by the company.			Cost new and additions taken from Company's annual reports submitted since 1907.		
	Cost beginning of year.	Additions.	Cost close of year.	Cost beginning of year.	Additions.	Cost close of year.
1890	$32,224 98	$1,487 00	$33,711 98	.....	.....	.....
1891	33,711 98	2,229 17	35,941 15	.....	.....	.....
1892	35,941 15	2,026 59	37,967 74	.....	.....	.....
1893	37,967 74	1,239 97	39,207 71	.....	.....	.....
1894	39,207 71	203 95	39,411 66	.....	.....	.....
1895	39,411 66	2,105 31	41,516 97	.....	.....	.....
1896	41,516 97	4,267 46	45,784 43	.....	.....	.....
1897	45,784 43	4,598 31	50,382 74	.....	.....	.....
1898	50,382 74	3,594 43	53,977 17	.....	.....	.....
1899	53,977 17	330 80	54,307 97	.....	.....	.....
1900	54,307 97	1,520 35	55,828 32	.....	.....	.....
1901	55,828 32	207 80	56,036 12	.....	.....	.....
1902	56,036 12	5,723 36	61,759 48	.....	.....	.....
1903	61,759 48	2,433 66	64,193 14	.....	.....	.....
1904	64,193 14	1,653 29	65,846 43	.....	.....	.....
1905	65,846 43	4,261 24	70,107 67	.....	.....	.....
1906	70,107 67	4,189 02	74,296 69	.....	.....	.....
1907	74,296 69	11,378 74	85,675 43	$74,296 66	$11,378 74	$85,675 40
1908[1]	85,675 43	5,678 74	91,354 17	.....	.....	.....
1909	91,354 17	11,538 03	102,892 20	91,330 14	11,562 03	102,892 17
1910	102,892 20	5,075 91	107,968 11	102,892 17	6,017 04	108,909 21
1911	107,968 11	53,159 11	161,127 22	108,909 21	52,217 98	161,127 19
1912	161,127 22	8,843 46	169,970 68	161,127 19	8,843 46	169,970 65
1913[2]	169,970 68	2,928 45	172,899 13	169,970 65[3]	5,011 20	174,981 85

[1] Report covers 8 months.
[2] Report covers 6 months ending Jan. 1, 1913.
[3] Report covers fiscal year ending June 30, 1913.

The utility began selling electricity in the month of December, 1889, at which time the plant has cost $32,224.98. The cost shown in the above table for the years following, up to and including the year 1907, are based upon a fiscal year ending November 30. In 1908, this practice was changed to conform to the Commission's classification of accounts which specifies that the fiscal year shall end on June 30. The company's statement included only six months of the fiscal year 1913, showing a total cost new at the end of that period of $172,899.13. It will be noted that the figures as taken from the annual reports of the company and as shown in the balance sheets above do not correspond exactly each year with the figures as reported in the company's statement. No explanation is offered for this discrepancy. The total cost, however, is the same in each for the year ending June 30, 1912.

The inventory of the physical property as of January 1, 1913, made by the engineering staff, and as altered herein, shows a total cost of reproduction, excluding materials and supplies, of

$166,668. The book value of the company of the same date shows a cost of $172,899.13, which differs from the preceding value by only $6,231. In this instance it might be expected that the cost of reproduction would be a little larger than the original cost, if the accounts have been properly and accurately kept. That it is not, can probably be explained by the fact that apparently in earlier years it was the practice of the company not to credit the construction account with the equipment that was replaced. If such was the practice there would naturally be some duplication in the property account.

It will be noted from an inspection of the balance sheets shown above that a depreciation reserve liability of only $5,000 has been established. This amount was all set aside in the year 1913. Correct accounting demands that an amount be set aside each year equal to the decrease in the value of the property due to wear and tear, obsolesceence, inadequacy, etc., in order that the capital be not impaired, and also in order to show the present value of the property. If such depreciation is not shown, either as a reserve or a deduction from plant value, the fixed assets of the company are misrepresented. In the instant case we find that the effect of not charging depreciation has been to increase the surplus of the company. A study of forty-two physical valuations of plants varying from one to twenty-four years in age, shows the following descriptive data of the ratio of present value to cost new: minimum 64.6 per cent, average 76.6 per cent, medium 74.7 per cent, and maximum 97.7 per cent. From these data it is seen that a plant that has been in operation for some time is likely to have depreciated about 25 per cent. That this is the case at Manitowoc can be verified by a glance at the engineers' appraisal. Applying this percentage to the cost of the plant as shown in the balance sheet for 1913, we find that about $43,745 should have been recorded as depreciation. Only $5,000, however, was charged for this purpose, which means that the surplus is about $38,745 larger than it would have been had proper accounting been made for the decrease in plant value. Following is shown the balance sheet for the year ending June 30, 1913, adjusted according to the foregoing views:

ASSETS.		LIABILITIES.	
Cost beginning of year	$169,970.65	Capital stock	$75,000.00
Additions during year	5,011.20	Depreciation reserve ..	43,745.46
Cash	2,960.56	Notes and bills payable	35,000.00
Accts. receivable	7,794.30	Surplus	35,901.48
Materials and supplies	3,569.68		
Prepaid insurance	340.55		
Total assets	$189,646.94	Total liabilities.	$189,646.94

The cost of the plant as shown in the above balance sheet is $174,981.85. If the amount in the depreciation reserve is deducted, we get $131,236.39 as the present value of the plant at the end of the fiscal year 1913. The appraisal of the engineers was made as of January 1, 1913. Since that time the books show that $2,082.75 worth of equipment has been added. If this amount is subtracted from the present value as shown above, the result is $129,153.64 as the present value for January 1, 1913, which is comparable with that shown in the staff's valuation. Of course, it is to be remembered that the correctness of the figures shown above depends upon the correctness of the plant cost as reported by the company and also upon the validity of the assumption that the ratio of present value to cost new is the same at Manitowoc as it is in most plants in this state. While there may be a legitimate doubt about this assumption, yet all the facts in the case seem to indicate that it is not far from representing the actual condition.

There are several elements besides the original cost, the original cost less depreciation, the cost of reproduction, and the cost of reproduction less depreciation that should be taken into consideration in arriving at a fair value of the property under appraisement. These include, among other things, the outstanding indebtedness, the gross and net earnings of the plant, and the cost or value of the business the plant has acquired or its going value. Considering these elements and all other factors that must be considered under the law in arriving at a fair and just value, it seems that $137,500 would be a just compensation to be paid by the city of Manitowoc to the Manitowoc Electric Light Company and Mr. John Schuette for the property of said company and Mr. John Schuette, actually used and useful for the convenience of the public.

In order to acquire title to a part of the real estate included in this appraisal the said John Schuette has agreed to accept therefor the sum of $600, the value fixed by the Commission and

has executed a warranty deed therefor and is ready to deliver the same if approved by the Commission. The land thus to be conveyed to the city is described as follows:

Commencing at a point upon the lot line between lots 5 and 6 in block 218 in the city of Manitowoc, Wis., 63 ft. north of Quay street, thence west 25 ft., thence north 11 ft., then east 6½ ft., thence north 27 ft., thence east 18½ ft., thence south along said lot line 38 ft. to the point of beginning.

The parties have also entered into a lease of certain premises and equipment used in connection with the plant, the material parts of which are as follows:

I.

John Schuette hereby

1. Leases to said city the engine room basement of the Oriental Mills, being a tract 12x63 feet and located in the southeast corner of lot 6 in block 218 in said city, together with the 150 h. p. Corliss engine contained therein.
2. Leases to said city that part of said lot 6 now occupied by boiler No. 1 of the electric light plant, together with sufficient room in front thereof so that the same can be properly fired and operated.
3. Grants to said city the right to use the driveway now extending along the west side of lot 4 and across lot 6 in said block 218.

In consideration whereof the city of Manitowoc

1. Grants to said John Schuette the right to use the driveway now extending across lot 5 in said block.
2. Agrees to furnish power to the Oriental Mills at the rate of 10 cts. per barrel for the first 10,000 barrels of flour per year, and 8 cts. per barrel in excess thereof, and 50 cts. for each ton of feed ground, the number of barrels and tons to be determined by the sworn report of the operator of said mills, and payment to be made semiannually.
3. Promises to pay to said John Schuette the sum of $275 per year.
4. Promises to deliver up, at the termination of this agreement, said Corliss engine in as good condition as it now is, reasonable wear and tear excepted.

The foregoing agreement shall be for the term of one year from January 1, 1914, and continue from year to year, but may be terminated by either party giving the other one year's notice. Provided, that in case any of the buildings or fixtures above mentioned be destroyed, then either party may terminate this

agreement by giving notice to the other within thirty days after such destruction.

II.

In case the foregoing agreement be terminated, then and in that case, said John Schuette agrees to buy boiler No. 1 at the present value of $306, less depreciation, the city agreeing to leave all the connections of said boiler and said engine as they now are. He further agrees that while the city owns and operates the electric light plant, as now located, he will permit it to use the ground in front of boiler No. 2, the city agreeing to permit him a right of way through its boiler room so that both said boilers may be fired and operated as now.

IT IS THEREFORE ORDERED, That the just compensation to be paid the Manitowoc Electric Light Company and Mr. John Schuette for the taking of the property of said company and Mr. John Schuette by the city of Manitowoc, which property consists of the items described herein, excepting any stock and materials on hand and excepting further the additions to the plant that have been made since January 1, 1913, which have not been included in the said items, be and hereby is fixed at $137,500.

IT IS FURTHER ORDERED, That $600 is the portion of the above sum that is to be paid by the city to Mr. John Schuette, upon delivery by him to the city of the aforesaid deed.

IT IS FURTHER ORDERED, That the aforesaid lease be and the same is hereby ratified and approved.

IT IS FURTHER ORDERED, That in addition to the price stated in the first paragraph, the material on hand at the date of the taking possession of the said plant by the said city and any new additions to the said plant that have been made since January 1, 1913, which have not been included in the aforementioned items, be paid for by the city of Manitowoc at such price as may be agreed upon by the parties themselves; or in case the parties fail to agree upon a price, at the price to be fixed by the Commission.

IT IS FURTHER ORDERED, That the said city of Manitowoc shall pay the just compensation herein fixed within three months from the date hereof, at such bank or banks in Manitowoc as the parties may agree upon, with interest at the rate of 6 per cent per annum from the date of the taking possession of the said plant by the city of Manitowoc until the same has been fully paid.

NORTHERN MILLING COMPANY
vs.
CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted Oct. 14, 1913. Decided Jan. 2, 1914.

The complainant alleges that the respondent charged it an unjust and unreasonable rate for the transportation of hay in carloads between certain points in Wisconsin. The rate complained of was declared excessive in *Wausau Advancement Association v. C. & N. W. R. Co.* 1913, 12 W. R. C. R. 438. The shipments in question were involved in the complaint in the case cited but refunds were not authorized for the reason that the petitioner in that case was not a "person aggrieved" within the meaning of the law.

Held: The shipments should have moved at the rate of 10 cts. per 100 lb., found to be reasonable in the case cited above. Refund is ordered on this basis for such shipments as moved within the then statutory period of one year previous to the time the complaint was filed.

The complainant, the Northern Milling Company, is a corporation engaged in the general business of buying, selling, and milling grain and grain products. The offices of the company are located at Wausau, Wis.

It is alleged in this complaint that the respondent, the Chicago & North Western Railway Company, has collected from the complainant for the transportation of hay in carloads, as indicated more specifically by certain expense bills attached to and made a part of the complaint, certain charges based on a rate which was unjust and unreasonable inasmuch as and to the extent that it exceeded 10 cts. per 100 lb. The complaint cited the decision of this Commission rendered Aug. 2, 1913, in the case of the *Wausau Advancement Association v. C. & N. W. R. Co.* 1913, 12 W. R. C. R. 433, 438.

Hearing was held October 14, 1913, at Madison. *A. E. Solie* appeared for the complainant and *C. A. Vilas* and *H. C. Cheyney* for the respondent. The representative of the complainant asked that the case be decided by the Commission upon the evidence adduced in the case above referred to, 12 W. R. C. R. 438.

The counsel for the respondent entered no objection and introduced no evidence.

A brief summary of the case cited is here given:

The petitioner, the Wausau Advancement Association, alleged that the respondent's, the Chicago & North Western Railway Company's, rates of 10.5 and 11 cts. on hay in carloads from stations on its line Marshfield to Wausau, inclusive, to stations on its line Bolton to Van Buskirk and Saxon to Bear Trap, inclusive, were unreasonable and discriminatory insofar as they exceeded the 10 ct. rate from the points of shipment named to Hurley and Ashland, points on respondent's line beyond the destinations named, and asked for reparation on certain shipments.

It was held that the 11 ct. rate complained of was an erroneous and illegal rate insofar as it had been applied to the stations Bolton to Bear Trap, inclusive. No order or authorization from the Commission was required to permit refunds of the excess of the erroneous and illegal charges involved above the lawful rate of 10 cts. It was ordered that the respondent desist from charging a higher rate than the lawful rate of 10 cts. per 100 lb. on carload shipments of hay from points on its line Marshfield to Wausau, inclusive, to points on its line Bolton to Bear Trap, inclusive. The 11 ct. rate was the legal rate to the other points to which it had been applied but it was found to be an excessive charge for shipments to Winchester and Fosterville. It was therefore ordered that the respondent substitute a rate of 10 cts. per 100 lb. for the present rate of 11 cts. per 100 lb. on carload shipments of hay from points on its line Marshfield to Wausau, inclusive, to Winchester and Fosterville. The refunds asked for could not, however, be authorized since the petitioner had no direct interest in and did not pay the charges on the shipments in question and was not, therefore, a "person aggrieved" within the meaning of the statute. (Sec. 1797—37*m*.)

It is apparent that the present complaint is a part of the complaint in this previous case so restated as to name the "person aggrieved" as the complainant.

Only two of the cars involved in the complaint moved within a period of one year previous to the complaint, hence, under the statutory limitation in force at the time the complaint was filed,

only these two can be considered here. The reasonable rate under which these cars should have moved has already been determined by this Commission, 12 W. R. C. R. 438, to be 10 cts. per 100 lb., and refund will therefore be ordered on that basis as shown below.

Date	4—11—13	5—20—12
W. B. No.	132	1246
Car initial	?	St. Paul
Car number	77454	64506
From	Stratford	Wausau
To	Fosterville	Winchester
Wt.	22,100	23,700
Rate charged	11 cts.	11 cts.
Charges paid	$24.31	$26.07
Correct rates	10 cts.	10 cts.
Correct charges	$22.10	$23.70
Difference	$2.21	$2.37

IT IS THEREFORE ORDERED, That the respondent, the Chicago & North Western Railway Company, be and hereby is authorized to refund and to repay to the complainant, the Northern Milling Company, the sum of $4.58, this being the amount charged on certain carloads of hay in excess of the reasonable charge.

WAUKESHA LIME AND STONE COMPANY,
FRANK B. FARGO, AGENT

vs.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY,
ILLINOIS CENTRAL RAILROAD COMPANY,
GREEN BAY AND WESTERN RAILROAD COMPANY,
MINERAL POINT AND NORTHERN RAILWAY COMPANY,
FAIRCHILD AND NORTHEASTERN RAILWAY COMPANY,
CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY COMPANY.

Submitted Dec. 9, 1913. Decided Jan. 2, 1914.

Petition is made for the establishment of joint rates on limestone used for agricultural purposes shipped from Waukesha to stations on the respondents' lines.

It is urged in support of the petition that the movement of the commodity in question should be encouraged because of the benefit to the state arising from increased fertility. The Commission heartily concurs in the theory that increased productivity of agricultural lands is of large benefit to the community, but it is inclined to doubt that the movement of any commodity should, except under unusual circumstances, be encouraged by a rate so low as to fail to return to the carrier the costs of the service, thus throwing a burden on the transportation of other commodities. In the instant case, however, it is possible to put into effect joint rates which will be remunerative to the carrier and still be such as to encourage the movement throughout the state of the commodity in question.

The respondents are ordered to put into effect for interline shipments of limestone for agricultural purposes from Waukesha to points on their lines a tariff of joint rates determined by the Commission. This tariff is based on the distance tariff for carloads of sand, crushed stone and gravel shipped from Waukesha ordered in *Waukesha Lime & Stone Co. v. C. M. & St. P. R. Co. et al.* 1912, 9 W. R. C. R. 87–99 and 347–353, and *In re Investigation Rates on Sand etc. on C. M. & St. P. R.* 1912, 11 W. R. C. R. 98–100, but is modified by the addition of a charge to cover the expense of transfer at junction points.

The Waukesha Lime and Stone Company is a corporation engaged as manufacturer and dealer in handling stone, gravel, sand, lime and similar materials. The general offices of this company are at Racine, Wis., but certain of its plants are located at Waukesha and it is with regard to respondent carriers' charges on certain products shipped from these plants that this

complaint is brought by Frank B. Fargo, agent. The complaint states that the petitioner is engaged in the production of limestone for agricultural purposes and it wishes joint rates on this commodity from Waukesha, Wis., to stations on the lines of the respondent carriers in Wisconsin.

Hearing was held at Madison, December 9, 1913. *J. J. O'Laughlin* and *Frank B. Fargo* appeared for the petitioner; *Kenneth Taylor* and *E. G. Clark* for the Minneapolis, St. Paul & Sault Ste. Marie Railway Company and *W. D. Burr* for the Chicago, St. Paul, Minneapolis & Omaha Railway Company.

The testimony covered in brief the prayer of the petitioner for joint rates and the present difficulty of moving the crushed limestone to various points in the state not on the lines of the carriers touching Waukesha, on account of the freight charges when computed as the sum of existing locals. Considerable emphasis was placed on the increased fertility which would result from a general distribution and application of the limestone to the soil. The carriers represented at the hearing indicated their willingness to make joint rates, provided these rates were fairly remunerative.

In 1912 this Commission, 9 W. R. C. R. 99 and 353, established a commodity distance tariff on carloads of crushed stone, gravel and sand from Waukesha, Wis., to points on the Chicago, Milwaukee & St. Paul and the Chicago & North Western railroads. Following this order, the Chicago & North Western Railway Company made these rates general on all local Wisconsin shipments of crushed stone, sand, and gravel and the Chicago, Milwaukee & St. Paul Railway Company made these rates general following an order of this Commission given November 29, 1912, 11 W. R. C. R. 100. The Minneapolis, St. Paul & Sault Ste. Marie Railway Company also adopted this distance tariff between all points in Wisconsin on its lines. At the present time, then, there is in effect locally in Wisconsin on the Chicago & North Western, the Chicago, Milwaukee & St. Paul and the Minneapolis, St. Paul & Sault Ste. Marie railroads on carloads of sand, crushed stone and gravel the following tariff:

Miles.	Cts. per 100 lb.	Miles.	Cts. per 100 lb.
5	1.20	80	2.61
10	1.30	85	2.68
15	1.40	90	2.75
20	1.50	95	2.82
25	1.60	100	2.90
30	1.70	110	3.00
35	1.80	120	3.10
40	1.90	130	3.20
45	2.00	140	3.30
50	2.10	150	3.40
55	2.20	160	3.50
60	2.30	170	3.60
65	2.40	180	3.70
70	2.47	190	3.80
75	2.54	200	3.85

The petitioner suggests two alternative methods of making the joint rates requested. The first proposes the application of the present commodity distance tariff as shown above to the short line joint mileage from Waukesha to destination, plus a transfer charge of $2.00 per car. The second method proposes to make the joint rate the sum of the locals and to base these local charges on the tariff given above and now in effect on the lines of three of the respondent carriers. It is urged by the petitioner that the movement of ground limestone for agricultural purposes should be encouraged because of the benefit to the state arising from increased fertility. This Commission heartily concurs in the theory that increased productivity of agricultural lands is of large benefit to the community, but it is inclined to doubt that the movement of any commodity should, except under unusual circumstances, be encouraged by a rate so low as to fail to return to the carrier the costs of the service, thus throwing a burden on the transportation of other commodities. In the present instance, however, it is quite possible to put into effect joint rates which will be remunerative to the carrier and still be such as to encourage the movement throughout the state of the commodity in question. The distance tariff on crushed stone, sand and gravel in carloads above quoted will be extended as follows for purposes of making joint rates to a distance of 360 miles and it is suggested that this extension be made also by the carriers now using this tariff for local shipments.

Miles.	Cts. per 100 lb.	Miles.	Cts. per 100 lb.
220	4.00	300	4.60
240	4.15	320	4.75
260	4.30	340	4.90
280	4.45	360	5.05

Certain expenses incident to the transfer at junction points are incurred by the carriers on joint hauls. To meet these expenses an arbitrary of ½ ct. per 100 lb. should be added to the rate as determined on the basis of the distance from origin to destination by applying the commodity distance tariff. In the following order the tariff as given is arrived at by adding ½ ct. per 100 lb. to the rate per 100 lb. as given in the original order naming a commodity distance tariff on crushed stone for distances up to 200 miles, and for distances greater than 200 miles the tariff is determined by adding ½ ct. to the rate as given above for distances from 220 to 360 miles.

IT IS THEREFORE ORDERED, That the respondents, the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, the Illinois Central Railroad Company, the Green Bay & Western Railroad Company, the Mineral Point & Northern Railway Company, the Fairchild & Northeastern Railway Company, and the Chicago, St. Paul, Minneapolis & Omaha Railway Company, discontinue their present rates on interline shipments of limestone for agricultural purposes from Waukesha to points on their lines in Wisconsin and substitute therefor the following rates, subject in each case to the same minimum rates as are in effect at the present time:

LIME STONE FOR AGRICULTURAL USES; CARLOADS.

Miles.	Cts. per 100 lb.	Miles.	Cts. per 100 lb.
5	1.70	100	3.40
10	1.80	110	3.50
15	1.90	120	3.60
20	2.00	130	3.70
25	2.10	140	3.80
30	2.20	150	3.90
35	2.30	160	4.00
40	2.40	170	4.10
45	2.50	180	4.20
50	2.60	190	4.30
55	2.70	200	4.35
60	2.80	220	4.50
65	2.90	240	4.65
70	2.97	260	4.80
75	3.04	280	4.95
80	3.11	300	5.10
85	3.18	320	5.25
90	3.25	340	5.40
95	3.32	360	5.55

ROBERT S. SCHMIEDER ET AL.

vs.

MILWAUKEE LIGHT, HEAT AND TRACTION COMPANY.

IN RE PETITION OF THE MILWAUKEE ELECTRIC RAILWAY AND LIGHT COMPANY AND THE MILWAUKEE LIGHT, HEAT AND TRACTION COMPANY WITH REFERENCE TO THE SINGLE FARE LIMITS IN WAUWATOSA.

TOWN OF CALEDONIA

vs.

THE MILWAUKEE ELECTRIC RAILWAY AND LIGHT COMPANY.

O. R. TOWER

vs.

THE MILWAUKEE ELECTRIC RAILWAY AND LIGHT COMPANY.

ALLAN D. STEARNS

vs.

THE MILWAUKEE ELECTRIC RAILWAY AND LIGHT COMPANY.

IN RE APPLICATION OF THE MILWAUKEE ELECTRIC RAILWAY AND LIGHT COMPANY FOR THE DETERMINATION OF REASONABLE UNIFORM RATES FOR SUBURBAN AND INTERURBAN SERVICE.

Decided Jan. 2, 1914.

The T. M. E. R. & L. Co. and the M. L. H. & T. Co. ask that the Commission determine and prescribe reasonable uniform tariffs and schedules of rates for the suburban and interurban transportation service rendered by the two companies. The companies take this action at the suggestion of the Commission in order to dispose in one proceeding of the formal complaints covered in the present opinion and decision and a number of informal complaints which have been made and to avoid future complaints by eliminating the discriminatory features of the suburban and interurban rate schedules now in effect. The remaining formal petitions listed in the title to this proceeding relate respectively to: (1) the round trip rates between Calhoun and West Allis and Calhoun and Milwaukee, which are alleged to be discriminatory as compared with more favorable rates over the same line between Waukesha and the same points; (2) the single fare limits in Wauwatosa, as recommended by the Commission and as required by the franchises under which the M. L. H. & T. Co. operates in Wauwatosa; (3) the alleged necessity of extending the limit for commutation tickets between the city of Racine and points in the town of Caledonia from Thielen stop to Four Mile road, a point about one-half mile north of Thielen stop, in order to make certain public places available as waiting stations; and, (4) and (5), the reasonableness of the suburban fares in effect between Milwaukee and West Allis, especially with respect to certain single fare limits which are alleged to discriminate

unjustly against certain districts and to cause congestion of traffic and hence inadequate service in other districts.

The so-called five-cent zone system of suburban and interurban rates in use on many interurban electric railways is unscientific and inequitable because of the unequal zone distances used, the concessions made to favored localities and favored classes of passengers at the expense of other localities and other classes of passengers and the consequent shifting of costs, in the form of excessive rates, onto patrons in the localities or classes discriminated against. In the instant case the one-way fares charged for different trips over the suburban and interurban lines of the two companies vary widely when compared on a passenger-mile basis. This discrimination has given rise to other discriminations such as those involved in the granting of overlapping zones and special and round trip rates to favored points.

The application of the railway companies in the present proceeding for authority to abandon the five-cent zone system and place the rates on a more uniform basis is in line with similar action taken by other interurban electric railway companies in Wisconsin and in neighboring states.

A basic rate of two cents per passenger-mile upon a cash basis, with a flat fare for Milwaukee, Waukesha, Watertown, Racine and Burlington, is considered as best meeting the requirements of the instant case. This rate is less than the cost of service under present traffic conditions, but it is expected to increase the passenger density to a point where the revenues will yield an adequate return.

The contention that the patrons of those lines or sections of lines which have a higher traffic density and operate upon a better revenue basis than other lines or sections of lines should be granted fares lower than the fares computed upon a mileage basis is opposed to the more modern theory of transportation rates which takes into account, among other things, the demand for simplicity, uniformity and stability in the rates to be put in force, for the purpose of avoiding uncertainty and personal and local discrimination.

Held: The rates of fare charged by the T. M. E. R. & L. Co. and the M. L. H. & T. Co. for the suburban and interurban service involved in the present proceeding are unjustly discriminatory. The companies are therefore authorized to put into effect for this service schedules of rates determined by the Commission. These schedules include: (1) rates for suburban passenger service to and through the cities of West Allis and Wauwatosa and on the Wanderer's Rest Cemetery line, to and through the city of North Milwaukee, Whitefish Bay and Fox Point, South Milwaukee and Tippecanoe, and rates for local suburban hauls originating and terminating beyond the single fare limits of the city of Milwaukee; (2) rates for through interurban passenger service upon the Milwaukee-Waukesha-Oconomowoc-Watertown line, the Milwaukee-Muskego Lakes-East Troy line, the Milwaukee-Waterford-Burlington line and the Milwaukee-Racine-Kenosha line; and (3) provision for the sale of tickets in packages for the payment of fares between points within the single fare limits of the city of Milwaukee and Marquette Boulevard in the city of South Milwaukee and for the sale of mileage books for the payment of interurban and suburban fares. Single fare limits for the city of Milwaukee are prescribed and all overlapping fare zones are to be abandoned. "Through interurban passenger service" upon the Milwaukee-Waukesha-Oconomowoc-Watertown

line, the Milwaukee-Muskego Lakes-East Troy line and the Milwaukee-Waterford-Burlington line is defined as passenger service between any point within the single fare limits of Milwaukee and points beyond Woodlawn Stop, and upon the Milwaukee-Racine-Kenosha line as passenger service between any point within the single fare limits of Milwaukee and points beyond South Limits, South Milwaukee. The rates prescribed for suburban passenger service are based upon the city fare with an addition of 2 cts. for each 2 ct. zone, as determined by the Commission, traveled beyond the single fare limits of the city of Milwaukee. Passengers paying these rates are to be entitled to the privilege of the usual transfers within the single fare limits of the city of Milwaukee and upon the several suburban lines. The rate prescribed for through interurban passenger service is a uniform charge of 2 cts. per mile computed to the nearest 1 ct. for the actual mileage, except the mileage included within the single fare limits of Milwaukee, for which the charge is in every case to be computed at 4 cts., and the mileage included within certain limits in Waukesha, Watertown, Burlington and Racine. The rate of fare per passenger for interurban service between points without the single fare limits of the city of Milwaukee is to be the difference between the through rates to these points. The minimum fare for any haul is to be 5 cts. Every interurban fare from or to Milwaukee, Racine, Kenosha, Burlington, Waukesha, Oconomowoc and Watertown is to entitle the passenger to the usual transfer privilege within the single fare limits of such cities where such privilege exists. The sale of all commutation and reduced round trip tickets which may now be in force is to be abandoned. The tickets to South Milwaukee authorized by the present order to be sold in packages are to be sold in packages of 20 for $2.50 and each ticket is to be good for one continuous ride between the points named, with privilege of transfers within the distance included. These tickets are to be sold for one year after date of installation. The mileage books authorized are to be for 300 miles at 1.8 cts. per mile, or $5.40 per book, and are to be good for the payment of any interurban or suburban fare, provided that the minimum fare thus payable shall amount to a five mile "tear". All complaints and petitions named in the present proceeding are dismissed insofar as they are not satisfied or granted by this order and insofar only as they relate to rates of fare for suburban and interurban passenger service. It is recommended, however, that the companies provide for a single fare of five cents to apply within the city limits of West Allis. The order is in no wise to affect or alter the rates now in effect for private, funeral, or chartered car service, or the present reduced "party rates" for passenger service, or rates for any service other than the carrying of passengers.

These cases and petitions involve the reasonableness of and alleged discriminations in existing fares of The Milwaukee Electric Railway and Light Company and the Milwaukee Light, Heat and Traction Company for suburban and interurban service.

The detailed matters concerning these complaints are as follows:

Robert S. Schmieder, et al. vs. Milwaukee Light, Heat and Traction Company.

The Calhoun petition, filed on December 17, 1912, and signed by Robert S. Schmieder and thirty-two other residents of Calhoun, Wis., alleges that the existing round trip rates between the points Calhoun-West Allis and Calhoun-Milwaukee on the respondent's Milwaukee-Watertown line are discriminatory as compared with the round trip rates between Waukesha-West Allis and Waukesha-Milwaukee on the same line. Prayer is made that the Commission establish just round trip rates for Calhoun.

Pursuant to notice a hearing was held on January 20, 1913, at the city hall in Milwaukee. *Robert S. Schmieder* represented the petitioners, and *Clarke M. Rosecrantz* the respondent.

In a brief filed March, 1913, the respondent denied the application of the petition on the grounds of cost of service and volume of traffic as measured in passengers.

Wauwatosa Single Fare.

The Wauwatosa petition was presented on behalf of the Milwaukee Light, Heat and Traction Company as a result of certain recommendations made by the Commission to extend the present single fare limits.

The petition was filed on March 20, 1913, and alleged, in brief, that petitioners operate, under joint agreement, two lines of electric railway between the city of Milwaukee and Wauwatosa and that the westerly single fare limits on these lines have been fixed with respect to the decision of the Commission in *Koenig v. T. M. E. R. & L. Co.* and *Gillett v. T. M. E. R. & L. Co. and M. L. H. & T. Co.* 1912, 10 W. R. C. R. 337, on the Wells-Farwell line at Wells and 59th streets in Wauwatosa and on the Walnut-National line at Spring and Pabst avenues in Milwaukee county; that on January 31, 1913, the Commission recommended that the single fare limits be extended on the Walnut-National line to its terminus in Wauwatosa at N. Main and State streets, and on the Wells-Farwell line to a point across the C. M. & St. P. Ry. Co. tracks; that transfers are given in Wauwatosa between these two lines; that the lines are operated within the city of Wauwatosa under certain franchises granted

by the town of Wauwatosa, village of Wauwatosa and city of Wauwatosa, which franchises it may be claimed can be interpreted to require the company operating these lines to carry passengers from any point in the city of Wauwatosa to any other point in that city for a single fare; that the earnings of the company do not permit the single fare limits to be so extended and arranged as to comply both with the Commission's recommendations and the franchise requirements; and that if it is deemed practical and reasonable to extend the single fare limits, the Commission provide that such extensions shall not operate to require the company to transport passengers for a single fare from or to points north or east of the single fare limits to or from points west or south of such limits.

Hearings upon this petition were held at Milwaukee on April 28, 1913, and July 16, 1913. The following appearances were entered: *Miller, Mack and Fairchild,* by *Edwin S. Mack* and *J. B. Blake,* on behalf of the petitioner; *Clifton Williams,* assistant city attorney for the city of Milwaukee; *Chas. B. Perry* on behalf of the village of Wauwatosa.

Town of Caledonia vs. The Milwaukee Electric Railway and Light Company.

The Caledonia petition, which was filed April 9, 1913, alleges that the town of Caledonia has granted The Milwaukee Electric Railway and Light Company a franchise to extend interurban tracks and operate cars along certain highways of the town; that the company is now operating under such franchise; that the company has for some time sold commutation tickets good between any point in the city of Racine to Thielen stop, less than half a mile south of Four Mile Road; that there is no shelter at Thielen stop for passengers; that at Four Mile Road there are two public places which take the place of a waiting station; that an extra fare of 5 cts. is charged for transportation between the Thielen stop and the Four Mile Road, a distance of less than half a mile; and that the Four Mile Road is a natural traffic point. The prayer is made that the Commission extend the limits for the commutation tickets now good to or from Thielen stop from or to the city of Racine to apply to or from Four Mile Road. Hearing was set for July 16, 1913, but no appearances were made.

O. R. Tower vs. The Milwaukee Electric Railway and Light Company.

Allan D. Stearns vs. The Milwaukee Electric Railway and Light Company.

The petitions of O. R. Tower and Allan D. Stearns et al. relate to the reasonableness of suburban fares between Milwaukee and West Allis and were filed April 19, 1913, and June 5, 1913, respectively. They allege in substance that the Commission has by order extended the single fare point to 62nd and Greenfield upon the Wells-Farwell line and Fond du Lac-National line, while the single fare limits upon the Burnham-Third line remains at 51st avenue and Burnham; that this irregularity is a discrimination against the latter line and is unjust and unwarranted; that the present single fare limits are inaccessible to a great number of passengers; that the operation of interurban cars is a burden and hardship, because of their limited stops; that the irregularity in fare limits causes a diversion of traffic to other lines serving West Allis and results in their congestion; and that the service and rates are unreasonable. The Milwaukee Electric Railway & Light Company, in its answer, denies all allegations of unreasonableness of fares and service.

Hearings in the above matters were held at Milwaukee on July 22, 1913, and July 30, 1913. The following appearances were noted: *F. C. Weed* and *Andrew Agnew* on behalf of petitioners, and *Miller, Mack and Fairchild*, by *James B. Blake*, on behalf of respondent.

Application of The Milwaukee Electric Railway and Light Company and Milwaukee Light, Heat and Traction Company.

The general petition filed by the companies on August 15, 1913, refers to the joint operation of the two companies, the franchises under which they operate and, in brief, alleges that the tariffs and schedules on file with the Commission for suburban and interurban transportation service contain many inequalities with respect to fares and distances which the companies desire to eliminate by substituting therefor new tariffs and schedules which shall be uniform. The prayer is made that the Commission investigate the rates for such suburban and interur-

ban service and determine and by order prescribe such uniform tariffs and schedules of rates as shall be just and proper under the circumstances.

Hearings in the above matters were held in Milwaukee on September 4 and 15. The following appearances were noted: *Van Dyke, Rosecrantz, Shaw & Van Dyke,* by *Clark M. Rosecrantz,* for The Milwaukee Electric Railway and Light Company and the Milwaukee Light, Heat and Traction Company; *Geo. Gabel* for the village of East Milwaukee; *Christ Wochsner,* mayor, and *Geo. C. Dutcher,* city attorney, for the city of Cudahy; *F. C. Weed* for the city of West Allis; *A. S. Green* for the village of North Milwaukee; *Chas. Franke,* mayor, and *Wm. J. Riley,* city attorney, for the city of South Milwaukee; *H. A. Kerler,* chairman, and *Robert Wild* for the town of Franklin and Hales Corners; *W. H. Goodall,* president, *Julius Len* and *E. V. Etton,* trustees, and *Frank C. Klode* for the village of Whitefish Bay; *Wm. Stabelfeldt,* chairman, for the town of Milwaukee; *H. D. Taylor* and *G. F. Kent* for the Bucyrus Company of South Milwaukee; *W. H. Churchill* for the town of Milwaukee; *A. M. Campbell,* traffic secretary, for the Merchants' and Manufacturers' Association of Milwaukee; *E. W. Lamberton,* supervisor, and *Frank Bursch* for Caledonia; *Otto Strache* for Ixonia; *Henry Carey,* chairman, for Waterford; *C. R. Guthrie,* chairman, for the town of Big Bend; *F. V. Brownell* for the Keystone Glue Company, South Milwaukee; *W. C. Quarles* for the Power and Mining Machinery Company, the Federal Rubber Company, and the Cudahy Packing Company, all of Cudahy, and for the Bucyrus Manufacturing Company, the Stowell Manufacturing Company, and the Conant Basket Company, all of South Milwaukee; *Thos. Winzenburg* for the town of Oconomowoc; *E. R. Burgess,* city attorney, for city of Racine; *Geo. Luchring* for the Obenberger Drop Forge Company of Cudahy; *Fred A. Vogel* and *Fred C. Ellis* for the Pfister & Vogel Leather Company, and the United States Glue Company, South Milwaukee; *E. H. Tichenor* for the city of Waukesha and the Waukesha Real Estate Dealers' Association.

Subsequent to the hearings on the last named application the following petitions were presented to the Commission.

The village of East Milwaukee through its attorney, George H. Gabel, petitions that the single fare limits on the Oakland

avenue line be extended from Newton avenue to Mineral Spring road.

Thirty residents of Big Bend by petition allege that the rate of fare from Mukwanago to Big Bend of 15 cts. is excessive and discriminatory, in that the distance is seven miles and that East Troy is granted a round trip rate to Mukwanago of 25 cts., while its one-way fare is 15 cts., the same as for Big Bend.

A resolution by the common council of the city of South Milwaukee instructs a committee to prevent an increase in the fare from Milwaukee to South Milwaukee and, if possible, to bring about a reduction in the present rate of 10 cts.

The Advancement Association and certain manufacturers of South Milwaukee by resolution petition for a reduction in the present rate to Milwaukee.

The petition of the railway companies, filed August 15, 1913, covers the entire field of suburban and interurban rates on the systems owned and operated by the Milwaukee Light, Heat and Traction Company and The Milwaukee Electric Railway and Light Company. Each of the other petitions and complainants summarized above refer principally to certain provisions of the same rate system and therefore will be disposed of in the decision upon the general petition of the companies to establish uniform rates.

The general petition of the respondents was filed at the suggestion of this Commission. The complaints cited above, other informal complaints, and the general experience with the five-cent zone system of fares in this and other states led the Commission to believe that the interests of all patrons would be more adequately served and that a large number of future complaints could be avoided by passing at the present time upon the discriminatory features of the entire suburban and interurban rate schedules.

DISCRIMINATORY FEATURES OF FIVE-CENT ZONE.

In selling any product it is customary to employ a standard unit of measurement. For instance, in this country milk is sold by the quart, meat by the pound, cloth by the yard, and coal by the ton. Similarly, in selling transportation to persons the adopted standard unit of measurement is the passenger-mile—one passenger carried one mile. Although steam lines in

general have adhered to this standard, the electric interurban systems in many cases have used the so-called five-cent zone system of rates. This system is merely an extension of the flat five-cent city fare and has no scientific basis for suburban or interurban operation. The resulting inequalities which exist under this system of rates may well be illustrated by measuring the different fares charged by the unit of measurement—the passenger-mile. No better examples can be cited than can be found upon the suburban and interurban systems involved in the present proceeding and the following facts are an indication of these inequalities.

On the Milwaukee-Kenosha line a 5 ct. fare is charged for local and through traffic between South Milwaukee, south limits, and Ryans, a distance of 1.57 miles, or 3.18 cts. per mile, while the same fare holds between Oaklahoma avenue and South Milwaukee, south limits, a distance of 7.17 miles, or a rate per mile of 0.69 cts. Five cents is charged on the Milwaukee-Watertown line for 0.99 of a mile between Calhoun and Moorland, for 1.64 miles between Buena Vista and Nagowicka, and for 3.33 miles between Delafield and Nashotah, resulting in rates per mile of 5.05 cts., 3.05 cts. and 1.49 cts., respectively. On the Milwaukee-Burlington line the charge is 5 cts. from Rochester to Waterford, 1.66 miles, 5 cts. from Rochester to Burlington, 3.89 miles, and a ten-cent minimum between Waterford and Norway or any part of the distance, resulting in rates per mile based upon the maximum haul of 3.01, 1.28 and 2.98 cts., respectively. Similarly, on the East Troy line the rate per mile varies from 3.09 cts. between Beulah Lake and Army Lake to 1.34 cts. between Muskego Lake and Big Bend. The Burlington and East Troy lines both have the added feature of discrimination of several double five-cent zones, or so-called ten-cent zones, which for short hauls to intermediate stops may charge as high as 10 cts. per mile.

The suburban zones adjacent to the single fare limits of Milwaukee city show variations such as 1.44 miles for Wanderer's Rest, 3.86 miles for Whitefish Bay, and 7.17 miles for South Milwaukee, including the overlap between Oklahoma and St. Francis. Thus the suburban rates per mile for the maximum haul varies from 0.69 cts. to 3.47 cts.

Directly due to the inequitable nature of the five-cent zone

system, as outlined in the above discriminations of one-way fares, is the practice of granting overlapping zones, special and round trip rates to favored points. When overlapping zones are injected into the five-cent zone system we have a rate scheme which places every locality in competition with its neighbors. For instance, it is usually contended that if a company extends the limits of an interurban zone for one-half mile so as to reach a certain locality and thereby grant a lower fare to this locality to all points through the overlap, it logically follows that the next locality a quarter or half mile distant should be granted a similar concession. The result is that this necessity of granting overlaps causes the rate schedules to become even more discriminatory, and, carried to its logical conclusion, the entire schedule ultimately must fall to the ground. A typical example of this tendency may be shown upon the Milwaukee-Racine-Kenosha line. The company, through a special rate of 5 cts., has granted an overlap from the city of Racine north to Thielen stop. The Caledonia petition given herein contends that the overlap should be extended to Four Mile Road, a distance of less than a half mile, giving as a reason the fact that there are two public places used as waiting stations there. An overlap also exists on this line between Oklahoma avenue and St. Francis, and it has been contended that this ought to be extended to Cudahy and even to South Milwaukee. If these concessions should be granted other localities adjacent would immediately ask to be included in the overlap, and finally, with all localities satisfied, the outcome would be that a single five-cent fare would exist between Milwaukee and Racine, a distance of 22.3 miles.

Upon the suburban lines extending from Milwaukee a number of overlapping zones have also been established. The zones were originally of proper distance but have become extended with the extension of municipal limits, the idea being in most cases to have the unequal zone conform with the political boundary line, and the result has been that zones immediately adjacent to the municipalities have been narrowed and the passengers originating in such zone discriminated against.

In any equitable system of fares for suburban and interurban service the overlapping zone cannot be justified except under very extreme conditions.

Regarding the matter of special ticket and round trip fares, we find that more than sixty of these concessions are granted from the one-way fares. Of the inequalities in the matter of special tickets may be cited the special fare between Racine and Ives which is as low as 0.79 of a cent per mile while the cash fare is 1.58 cents per mile. A special fare is charged between Milwaukee and Carrolville at 0.8 of a cent per mile on the Milwaukee-Kenosha line and at 1.3 cents per mile between Milwaukee and County Line on the Milwaukee-Watertown line. Round trip fares are granted upon the four interurban lines and are the cause of a good deal of local discrimination. On the Milwaukee-Kenosha line, for example, a rate per mile of 1.09 cts. prevails between Racine and Kenosha, and 1.14 cts. between Milwaukee and Racine, while on the Watertown line the round trip fare between Waukesha and Delafield sells at 2.06 cts. per mile and that between Waukesha Beach and Delafield at 2.31 cts. On the Burlington line the round trip rates per mile vary from 1.5 cts. to 1.82 cts. and on the East Troy line from 1.2 cts. to 2 cts. It will be observed from these facts that the round trip rates on the entire interurban system vary from a minimum of 1.09 cts. to 2.31 cts. per passenger mile or a variation of about 112 per cent above the minimum.

Petitions have repeatedly been filed by representatives of different localities along the lines in question demanding round trip concessions on the basis that the existing round trip fares were discriminatory. An analysis of conditions on the Watertown line, for instance, shows that Calhoun with no round trip fares is entitled to such fares when its claim is compared with those of some of the other stations enjoying concessions. Upon the basis of tributary revenues, or tributary business for 1912, Calhoun ranks twelfth out of twenty-four stations. Other stations such as Pipersville, Nagawicka, Silver Lake, North View, Ixonia, Sullivan Road, Meadowbrook, and River Road, all ranking lower in point of tributary revenues—the last four ranking the lowest of all stations—enjoy one or more reductions over the one-way fare. In view of these facts alone Calhoun is entitled to similar reductions. A further analysis shows that Calhoun with 294 passengers per capita per annum ranks highest while Nashotah with 208 ranks second, Delafield with 153 ranks third, Pipersville with 111 ranks fourth, Waukesha with

41 ranks fifth, Oconomowoc with 32 ranks sixth and Watertown with 10 ranks seventh. The unit of passengers per capita per annum shows the average number of rides per unit of total population, or the average frequency of riding during the year, and is a factor of considerable importance when granting reduced rates. Accordingly Calhoun, in view of its standing upon this basis, is entitled to as many points as any other station, with Milwaukee excepted. Another fact favoring a concession for Calhoun is that the first five-cent zone east towards West Allis and Milwaukee is 0.99 of a mile, requiring over five cents per mile through this zone. These facts regarding Calhoun are given to exemplify the discriminatory nature of the present rates, with respect to one locality and a similar analysis for other stations on this line and the other interurban lines would disclose conditions more or less discriminatory. A few more examples will suffice. As shown previously, Ives on the Milwaukee-Kenosha line received a special fare concession to Racine at a rate of 0.79 of a cent per mile. In rank of tributary revenues Ives stands ninth out of twelve stations on that line and those stations such as Kenosha, North Limits, Central Park, Milwaukee, South Limits, ranking higher than Ives, and with no concessions would be entitled to reductions in their rates per mile. On the East Troy line Verona Center, ranking lowest in point of tributary revenues, is granted a round trip fare to Milwaukee while Greenwood and East Troy Road, ranking ninth and tenth, respectively, have no fare reductions. Mukwonago on the same line, ranking fourth with 7.07 per cent of the revenues, has a round trip fare to Milwaukee and to East Troy, while Muskego Lakes, with almost twice the tributary revenues, namely 13.99 per cent, has only one round trip fare. St. Martins on the Burlington line, ranking fifth with 5.82 per cent of the revenues, is granted no reduction in fares although other stations with a smaller amount of business enjoy substantial reductions.

Assuming that round-trip concessions should be granted on the basis of tributary business we find that, returning to the Watertown line, if River Road, ranking lowest in tributary business, is granted a round trip fare to Milwaukee it is only fair that all other stations along this line be granted a reduction to Milwaukee. If Pipersville, ranking fourteenth in point of tributary business, is granted round trip fares to Milwaukee, Water-

town and Oconomowoc, it follows that upon the above theory all stations ranking higher than Pipersville should be granted as many as three round trip fares. Upon the theory that Waukesha, with a frequency of rides per capita per annum of 41, is entitled to round trip fares to Milwaukee, West Allis, Waukesha Beach, Delafield, Oconomowoc, and Watertown, it seems that those stations with a higher frequency should receive about the same concessions. Upon the theory that all excessively high rates per mile are unlawful it would be necessary to reduce the rates for those stations with such excessive rates to a lawful level through the granting of special or round trip fares. And consequently, after all legitimate claims for reductions had been met the special and round trip rates would, no doubt, far exceed the number of regular rates, the basic five-cent zone rate as applied by the company would be practically nullified, and the difficulty of collection and the prohibitive expense of the large number of special and round trip fares would most certainly warrant the abandonment of the entire system.

In establishing a revised system of interurban and suburban fares it is fully realized that the present fares will be considerably disturbed in some sections of the tributary territory, but this is not due to the application of any radical or untried theory of rates. It is due principally to the fact that the existing fares, as shown previously, do not rest upon any scientific basis but are based upon unequal zone distances and concessions to favored localities. The results of such a schedule are obvious. Invariably one or more localities are built up at the expense of others. Patrons favorably situated are granted extremely low fares, part of the cost of which have to be borne by those less favorably situated and paying excessive rates. With these facts in mind, a revision is here undertaken with the sole aim of removing as much of the discriminations as possible and placing a schedule of fares in force, upon a uniform rate per passenger mile, which will equalize opportunity for local growth and expansion, insure equitable treatment of individuals, and reasonably preserve the amount of traffic upon the various lines.

DISTANCE BASIS FOR FARES.

It is deemed that a basic rate of 2 cts. per passenger mile upon a cash basis, with a flat fare for the terminal and the subterminals, will best meet the requirements of the interurban service. That such a rate is not a new departure in electric railway operation is shown by conditions in this and other states. A gradual change is taking place from the old five-cent zone basis to some form of mileage basis. In this state the Sheboygan Electric Railway Company, running between Sheboygan, Plymouth and Elkhart, changed over some six years ago; the Milwaukee Northern Railway Company, running between Milwaukee and Sheboygan, adopted the mileage system when it began operation in 1908; the Rockford and Interurban Railway Company, running between Rockford, Ill., and Janesville, changed over to a distance basis last year; and the three interurban lines operating between Oshkosh, Fond du lac, Neenah and Omro in the region of Winnebago Lake have filed an application with the Commission to change their five-cent zone rates to a mileage basis. The application of the railway companies in the instant case for authority to abandon the five-cent zone system and place the rates on a more uniform basis is in line with this general change. In this state and in the states of Minnesota, Iowa, Illinois, Michigan, Indiana and Ohio returns show that of eighty-three electric interurban companies more than one-half now operate under some form of mileage rate. And it may be stated that the Pennsylvania and New Jersey state railroad commissions have declared in favor of the mileage basis.

It has been contended that the basic rate in this case should be placed upon a cost-of-service basis. Computations in the matter *City of Milwaukee vs. The Milwaukee Electric Railway and Light Company,* 1912, 10 W. R. C. R. 1, 282–283, Table 82. show that the rate of return upon the total interurban physical property amounted to 3.10 per cent in 1908, 3.05 per cent in 1909, 1.84 per cent in 1910, and 2.35 per cent in 1911. Similar computations for 1912 show the per cent return to approximate 1.6 per cent. These facts indicate that when 7.5 per cent is considered a fair return the rates of return as quoted for the past five years have fallen considerably below an adequate return. To bring the revenues to the point where they would yield such

a return for 1912, for instance, it would be necessary—assuming that the probable decrease in traffic would not occur—to establish the basic rate at about 2.75 cts. per passenger mile. When the conditions prevailing on the interurban system are considered as indicated by the passenger density per car-mile, increasing only from 2.09 in 1908, to 2.13 in 1913, (case cited, 10 W. R. C. R. pp. 266–267, Table 77) it seems best to place the rate at a lower figure than the cost of service would demand so as to encourage the passenger density with this lower rate to increase sufficiently to bring the revenues to the point where they will bring an adequate return above all expenses. It should also be stated that a rate of 2.75 cts. per passenger-mile would result in a large number of increases upon the entire system while a rate of 2 cts., although increasing certain low rates, reduces a considerable number and thus equalizes the conditions on a more satisfactory basis.

It has also been the contention of representatives of localities along certain lines, and even along sections of such lines, comprising the entire interurban system, that the patrons of those separate lines or sections of lines having a higher traffic density and operating upon a better revenue basis should be granted fares lower than the fares computed upon a mileage basis. It is difficult, however, to see the justice of establishing such fares, especially when it is the object of this revision of existing rates to abolish, so far as practicable for the present, all special fares involving local discrimination. It is also the object of this revision of rates to bring about simplicity, uniformity and stability in the rate schedules applying to these lines by disregarding any differences in revenues or operating conditions. This is in line with the more modern theory of transportation rates. Take, for example, the regular passenger fares upon the steam lines within the state. The basic rate is 2 cts. per passenger mile and with few exceptions the fares are computed accordingly whether the company is large or small, whether the haul is long or short, whether the traffic is profitable or unprofitable, or whether the service is poor or excellent. If all these factors cited should be reflected in full force in the rates the probability is that the rates would vary all the way from 0.5 of a cent per mile to 50 cts. per mile. But the nature of the transportation business is such that the demand for simplicity, uniformity and stability is necessarily controlling be-

cause even a slight variation in basic rates would open the way to uncertainty in the minds of the riding public and would result in personal and local discrimination.

As stated previously, the fares authorized will cause both increases and decreases in the present fares. For example, the cash one-way fare from Milwaukee to Waukesha, which is 35 cts. at present, will be reduced to 31 cts. The one-way fare from Waukesha to Waukesha Beach, which is now 15 cts., will be reduced to 14 cts., a decrease of 1 ct. The one-way fare from Milwaukee to Waukesha Beach will be reduced from 50 cts. to 40 cts.; that from Milwaukee to Delafield, from 65 cts. to 50 cts.; that from Milwaukee to Oconomowoc from 80 cts. to 66 cts.; and that from Milwaukee to Watertown from $1.10 to 94 cts. When the fares for rides between various intermediate points on the Milwaukee-Watertown line are considered it is found that the one-way fare between Waukesha and Delafield is reduced by 6 cts.; that between Waukesha and Watertown by 7 cts.; that between West Allis and Nashotah by 12 cts.; and that between Oconomowoc and Watertown by 2 cts. The fare between Delafield and Oconomowoc is increased by 1 ct. In fact, the major portion of one-way fares on this line are decreased. On the East Troy line the one-way fare from Milwaukee to important points such as St. Martins is reduced from 25 cts. to 24 cts.; that from Milwaukee to Muskego Center is reduced from 35 cts. to 32 cts.; that from Milwaukee to Big Bend from 40 cts. to 39 cts.; that from Milwaukee to Mukwanago, from 55 cts. to 52 cts.; and that from Milwaukee to East Troy from 70 cts. to 65 cts. On the Burlington line the one way fare from the terminal to Durham is reduced from 30 cts. to 29 cts.; the fare to Norway is reduced from 45 cts. to 43 cts.; that to Waterford form 55 to 49 cts.; and that to Burlington from 70 to 66 cts.; but the fare from Waterford to Burlington is increased from 15 to 17 cts. Both on the Burlington and East Troy lines the major portion of the fares authorized are also reductions from the existing schedule. On the other hand, due to the present low fares on the Milwaukee-Kenosha line, the proposed fares are, to some extent, increases. The one-way fare from Milwaukee to Racine is increased from 40 to 45 cts.; and the fare to Kenosha, north limits, from 50 to 60 cts. The fare between Racine and Kenosha is increased from 15 to 20 cts.; the fare between South Milwaukee and Kenosha is increased from 40 to 46 cts.; and the fare from South Milwaukee to Racine is increased from 30 to 31 cts.

Inasmuch as a general reduced rate, as compared with the cash fare in the form of a coupon book at 1.8 cts. per passenger-mile is ordered in the authorization and is made contingent thereto, it is proper to make a comparison between the present round trip fares and the fares upon the basis of the 1.8 cts. mileage coupons. Out of thirty-three round trip fares on the Watertown line practically only five are increased. These increases are small when compared with the one-way decreases. The round trip fare between Delafield and Watertown is increased from 75 to 79.2 cts.; that between Oconomowoc and Pipersville from 25 to 28.8 cts.; that between Delafield and Oconomowoc from 25 to 28.8 cts.; that between West Allis and Waukesha from 40 to 50.4 cts.; and that between Milwaukee and Waukesha from 50 to 57.6 cts., while the decreases for 28 stations range from 1.6 cts. to 10 cts., and the fares for five stations remain practically the same. The two fares cited for Waukesha show increases above the other stations because the existing fares are relatively very low. The same is true upon the Kenosha line as regards the present low fares to Racine and Kenosha. On this line the round trip fares between Milwaukee and Racine will be increased upon a mileage basis from 60 to 82.8 cts., and those between Milwaukee and Kenosha from 85 cts. to $1.08. Between South Milwaukee and Racine the increase is 7.6 cts. per round trip and 7.8 cts. between the former city and Kenosha, north limits. However, a comparison on the East Troy and Burlington of the present round trip fares with the proposed mileage coupons shows that only 3 out of 19 fares will be increased, or approximately 16 per cent. A slight increase of 2 cts. is caused in the round trip fare between Milwaukee and Big Bend, the present fare being 70 cts. and the proposed fare 72 cts. A similar change will take place in the fare of 70 cts. between Milwaukee and Wind Lake, and an increase of 7.4 cts. will occur in the fare of 25 cts. between Waterford and Burlington.

Comparing the total of 60 round trip fares now in force upon the respondent's interurban lines with the mileage coupon of 1.8 cts., it appears that 17, or about 28 per cent, will be increased, while 43, or 72 per cent, of the fares will be reduced or will remain the same. Of this 72 per cent 9 fares—20 per cent—will remain the same while 34 fares—80 per cent—will be reduced.

In a preceding paragraph the statement is made that a rate

of 2 cts. per passenger-mile with a flat fare for the terminal and subterminals would best meet the requirements. In adopting this fare scheme Milwaukee is considered as the terminal and Waukesha, Watertown, Racine and Burlington are considered as subterminals. The flat fare within the single fare limits of the terminal is placed at 4 cts., with privilege of transfer, while the subterminal fare is placed at 5 cts. with privilege of transfer where such exists. In this respect the entire fare scheme differs from that of a steam road. The electric interurban car-stops per mile are numerous within a city. To apply a strict rate per mile to each stop would be highly impracticable and the flat rate as stated above becomes a necessity. With this modification the *actual* rate per mile is somewhat below 2 cts. for an interurban ride when it includes a terminal and subterminal charge. Thus uniformity in the terminal charge for all lines, and uniformity in the subterminal charge for each line, together with a uniform rate per mile for the interurban component of any such ride, causes the rate per mile to vary below 2 cts. On the Milwaukee–Watertown line the terminal ride from the Public Service Building to the single fare limits is 5.34 miles; on the Burlington and East Troy lines it is 5.81 miles, and on the Kenosha line 4.22 miles. The subterminal distance for Waukesha is 2.55 miles; for Watertown it is 2.43; for Burlington 2.29 miles, and for Racine 4.11 miles. Accordingly the actual rates per mile for fares herein authorized must necessarily vary, as the following examples show. From the Public Service Building in Milwaukee to Racine, south limits, the distance is 26.41 miles, the one-way fare proposed is 45 cts. and the resultant rate per mile is approximately 1.7 cts. From the same point in Milwaukee to Waukesha, west limits, the distance is 18.43 miles, the fare is 31 cts., and the rate per mile 1.65 cts. For the cash fare of 94 cts. between Milwaukee and Watertown the rate per mile is 1.86 cts. These examples indicate the condition that the rate per mile is a variable approaching 2 cts. as the length of ride increases, when the ride includes a terminal and subterminal charge. This is true in general because the influence of the flat rate upon the rate per mile grows less as the fare increases. But uniformity is established under the proposed system in the rate per mile for those points equidistant from the Public Service Building. Thus the distance to Oconomowoc, East Troy and Burlington is 36.40, 36.26 and

36.38 miles, respectively, while the corresponding rates per mile are 1.81, 1.79 and 1.81 cts. For equal distances for rides not including a terminal or subterminal charge the rate per mile is also approximately uniform. In this connection it should be taken into consideration that the rate per mile is even lower when the patron takes advantage of the transfer privilege offered to all interurban patrons. This allows a maximum haul of over ten miles within the city of Milwaukee in addition to the interurban ride.

A still lower rate per mile is obtained with the mileage-coupon fares. Here again the actual rate for interurban rides including a terminal and subterminal charge approaches 1.8 cts. From Milwaukee to Waukesha the actual rate is 1.52 cts.; to Racine it is 1.56 cts.; to Waukesha Beach it is 1.56 cts.; and to Delafield it is 1.58 cts. If a maximum haul of ten miles when the transfer privilege is used is assumed, these rates will obviously be reduced to a slight degree.

DISPOSAL OF INTERURBAN PETITIONS.

Taking up the petitions relating to interurban fares included in this decision the following facts with respect to the fares authorized will answer the contentions of the petitioners.

In the matter *Robert S. Schmieder et al. vs. Milwaukee Light, Heat and Traction Company,* prayer was made for a lower fare from Calhoun to West Allis and to Milwaukee, to be obtained by round trip concessions. The present fare from Calhoun to West Allis at 62nd and Greenfield is 20 cts. while the fare herein authorized is 13 cts., a reduction of 7 cts. The present fare from Calhoun to Milwaukee is 25 cts. and the proposed fare is 17 cts., a reduction of 8 cts. These fares will be further reduced by the use of the mileage book.

In the matter *Town of Caledonia vs. The Milwaukee Electric Railway and Light Company,* prayer is made that the Ives commutation ticket be extended to apply to Four Mile Road. This ticket, together with all other special and round trip fares, will be superseded by the fares authorized in the following order and no extension can be granted. The fares between Racine and Four Mile Road will be placed upon a distance basis, which is deemed the most equitable. The petition is therefore dismissed.

Thirty residents of Big Bend filed a petition requesting a round trip fare of 25 cts. to Mukwanago. The present one-way fare is 15 cts. This has been reduced to 13 cts. in the authorized fare, making the round trip 26 cts. The mileage coupons, when effective, will reduce the fare below 26 cts.

SUBURBAN FARES.

In bringing about uniformity in the suburban fares by applying the distance basis it is found that, due to the shortness of some lines, the existence of private rights of way and the concentration of traffic at certain points, a modification of distances is required. The fares as authorized herein are placed as near as possible upon an equitable basis by the establishment of consecutive two-cent zones, that is, the basic rate is placed upon a copper instead of a nickel basis. This scheme of fares is far less discriminatory than the existing five-cent zones with the accompanying overlaps. The present system is discriminatory partly because the suburban zones vary all the way from 1.44 miles, for the Wanderer's Rest line and Wauwatosa–Walnut line, to 7.17 miles for the South Milwaukee line. Next to the South Milwaukee zone the Whitefish Bay zone is the longest, with 3.86 miles. When cognizance is taken of the fact that 5 cts. is charged for these varying distances the inequalities as between suburbs become apparent. For example, the rate per mile to South Milwaukee and Whitefish Bay is extremely low when compared with the rates to other suburbs. To remedy these differences it will be necessary to employ shorter zones upon a copper basis. A charge of two cents per zone as applied will necessarily raise the low rates and decrease the higher ones. The rates so adjusted will result in an approximate average rate for each line which will to some degree place all suburbs upon an equal basis.

In view of the above facts the West Allis–Burnham line is divided into two zones; the first extending from 51st avenue and Burnham to 77th avenue and George street, and the second from 77th avenue and George street to Woodlawn stop. On a cash basis the fare in the first zone is reduced from 10 cts. to 7 cts. and in the second zone from 10 cts. to 9 cts. With a city ticket at 4 cts. the present fare to the first zone is 9 cts. and the proposed fare 6 cts., a decrease of 3 cts., and to the second zone this present fare of 9 cts. is reduced to 8 cts. The proposed fare

with a four-cent city ticket to the first zone is a reduction from the present West Allis commutation—20 for $1.50—at 7.5 cts. of 1.5 cts. and to the second zone the proposed fare results in the slight increase of one-half cent. On the West Allis–Fond du Lac suburban line the first two-cent zone extends from 62nd and Greenfield avenues to 77th avenue and Summit, and the second from Summit to Woodlawn stop. The same number of reductions and one increase in the fares occur here as noted for the West Allis–Burnham line.

On the Wauwatosa-Walnut line one suburban zone is established from Pabst and Spring avenues to the terminus of that line. This places the proposed fare upon a cash basis at 7 cts., and in connection with a four-cent city ticket at 6 cts., thus reducing all present cash and commutation fares by amounts as noted for the first zone on the West Allis-Burnham line. The Wauwatosa-Wells line is divided into two zones; the first extending from 59th avenue and Wells to Wauwatosa avenue and Watertown Plank Road at a point opposite the terminus of the Walnut line, and the second zone extending from the latter point to the County-Buildings terminus. All present cash and commutation fares are reduced within the first zone, and in the second zone the same number of reductions and one increase of one-half cent take place as cited for the second zone on the Burnham line.

On the Wanderer's Rest line two zones are established. The first extends from North and Lisbon avenues to Spring and Lisbon, while the second extends from the latter point to the end of the line. The present fare is 10 cts. and the proposed fares are all reductions of from 1 to 3 cts., depending whether a cash or ticket fare is paid for the city ride.

The North Milwaukee suburban zone is divided into two zones. The first reaches from 27th and Pease to Hampton avenue in North Milwaukee, while the second reaches from Hampton avenue to the end of the line at Wallace avenue. The fare within the first zone is 7 cts. cash, and 6 cts. when a four-cent city ticket is used, thus reducing the present cash fare of 10 cts. by 3 cts., the city ticket plus a cash suburban fare by 3 cts., and the commutation fare of 7.5 cts. by 1.5 cts. In the second zone all present fares will be reduced with the exception that the lowest zone fare will be an increase of one-half cent over the 7.5 ct. commutation.

The Whitefish Bay and Fox Point line with two five-cent zones at present is divided into six two-cent zones. This will cause decreases for all fares in the first zone. The second zone including Whitefish Bay will be benefited by a reduction in the cash fare from 10 to 9 cts. and a reduction from 9 to 8 cts. when a city ticket at 4 cts. is used, while the commutation fare of 7.5 cts. will be increased by one-half cent, considering the lowest fare on a zone basis. In the third zone the present cash fare will be increased by 1 ct. and the same is true when a ticket is used for the city part of the ride. The present fare to the third zone when the commutation is used is 7.5 cts. and this is increased by 2.5 cts. upon the basis of the lowest zone fare. All fares in the fourth zone are increased by 2 cts. more than in the third. In the fifth zone the present cash fare is 15 cts. and the proposed cash fare will be the same. In the sixth zone the present cash fare is also 15 cts. and the fare proposed will increase this by 2 cts. When the present commutation ticket is used as part payment for a ride to the sixth proposed zone the fare is 12.5 cts. and the lowest fare on a two-cent zone basis will increase this by 3.5 cts.

For the South Milwaukee suburban zone of 7.17 miles a division is made similar to the one for the Whitefish Bay line. Because of the extreme length of this zone it is divided into seven two-cent zones. The first extends from Oklahoma avenue and Kinnickinnic to Thompson avenue. The southern boundary of the second zone is at Cudahy depot, for the third this boundary is at Underwood avenue, for the fourth it is at Thrintheimer's Park and for the fifth it is at Beach street. Due to the existence of two lines within South Milwaukee the sixth zone has two southern boundaries; one at Marquette avenue and Chicago road, and the other at Marquette and Fifth avenues. Two seventh zones exist, both have their southern boundaries at the south limits of South Milwaukee. Under present conditions an overlap exists from Oklahoma avenue to St. Francis. Under the proposed method, in order to bring about uniformity, this overlap, it is believed, should be abolished. The fare to St. Francis with this method will be increased by 2 cts., the ticket fare from 4 to 6 cts., and the cash fare from 5 to 7 cts. However, all present fares applying to the section between St. Francis and Thompson avenue will be

reduced. The second zone extends into Cudahy to the depot. The cash fare for Cudahy within the second zone will be reduced from 10 to 9 cts., the fare upon the basis of a city ticket plus a suburban cash fare will be reduced from 9 to 8 cts. and the present commutation at 7.5 cts. will be increased by one-half cent. For the third zone the present cash, cash and ticket fares as outlined above will be increased by 1 ct., while the commutation will be increased by 2.5 cts. over the lowest zone fare. For the fourth zone the existing fares will be increased by 3 cts., for the fifth zone by 5 cts., for the sixth by 7 cts., and for the seventh by 9 cts. Because of these increases, especially in the sixth zone, and because of the fact that a large number of patrons use this line daily, it is considered that the proposed fares should not be put into effect within a short time, but that the increases should be gradual and that they should be extended over a period of at least one year by the issuance of a ticket which will cover about one-half of the average of increases proposed. It is the opinion that a ticket at 12.5 cts., which is an increase of 2.5 cts. over the present cash fare and 3.5 cts. over the suburban-cash-and-city-ticket fare, will best meet the needs of the situation.

The Tippecanoe line operates at present under a single fare. However, in order that the proposed system of fares may be uniformly applied the tributary territory of the line south of Oklahoma and Howell avenues must necessarily be considered as suburban. Upon this basis the line is divided into two copper zones; the first extending from Oklahoma and Howell to Tippecanoe, and the second from the latter point to the end of the line. This will increase the fares to Tippecanoe proper by 2 cts., as Tippecanoe is situated near the southern boundary of the first copper zone.

SUBURBAN PETITIONS.

In the matters of *O. R. Tower and Allan D. Stearne vs. The Milwaukee Electric Railway and Light Company,* prayer is made that the single fare limits on the West Allis-Burnham line be extended from 51st aveuue to 62nd avenue. In this decision authorizing uniform suburban fares the present charges are reduced as cited previously both in the first and second zone on the Burnham line, with the exception of a one-half cent in-

crease over the present commutation fare within the second zone. Under this revised system of fares the extension of single fare limits is not as urgent as under the present system, because of the fact that patrons riding short distances within the suburban zone will pay a fare approximately proportionate to the length of haul, thus causing less discrimination. However, in the interests of a uniform policy upon the lines serving West Allis as regards single fare limits, it is recommended that the present single fare limits upon the West Allis-Burnham line be extended from 51st avenue to 62nd avenue. The extension of the single fare limits to 62nd avenue on the three lines serving West Allis causes this city to be divided into part Milwaukee urban and part suburban territory. The charge for a local ride, therefore, ranges from 4 to 9 cts. under the system of rates authorized herein. This is only a slight improvement over the present fares where the maximum charge for a local ride is 10 cts. In view of the condition cited it is further recommended that the companies provide for a single fare of 5 cts. to apply within the city limits of West Allis. Matters pertaining to service in West Allis will be taken up in separate proceedings.

In the matter of the single fare extension for the city of Wauwatosa it is deemed best that under the revised system of fares the limits should remain as at present. It is the opinion of the Commission that with the proposed rate of 6 cts. within the first two-cent zones on both lines serving Wauwatosa the fare, considering all circumstances, is equitable. The fares ordered herein are to supersede all other acts of the Commission pertaining to fares to the city of Wauwatosa.

ORDER.

IT IS THEREFORE ORDERED, That The Milwaukee Electric Railway and Light Company and the Milwaukee Light, Heat and Traction Company be and they hereby are authorized to abandon their present rates of fare for suburban and interurban passenger service and to substitute therefor the following rates of fare deemed just and reasonable as provided in ch. 362, laws of 1905, and acts amendatory thereto:

1. SUBURBAN.

a. For suburban passenger service to and through the city of West Allis:

Wells Street—West Allis. City fare from any point within the single fare limits of the city of Milwaukee to 62nd and Greenfield, plus 2 cts. for any distance from 62nd and Greenfield to 77th avenue and Summit, plus 2 cts. for any distance from 77th avenue and Summit to Woodlawn stop; and vice versa.

National Avenue—West Allis. City fare from any point with-the single fare limits of the city of Milwaukee to 62nd and Greenfield, plus 2 cts. for any distance from 62nd and Greenfield to 77th avenue and Summit, plus 2 cts. for any distance from 77th avenue and Summit, to Woodlawn stop; and vice versa.

Burnham—West Allis. City fare from any point within the single fare limits of the city of Milwaukee to 51st avenue and Burnham, plus 2 cts. for any distance from 51st avenue and Burnham to 77th avenue and George street, plus 2 cts, for any distance from 77th avenue and George street to Woodlawn stop; and vice versa.

b. For surburban passenger service to and through the city of Wauwatosa.

Wells-Wauwatosa. City fare from any point within the single fare limits of the city of Milwaukee to 59th ave. and Wells, plus 2 cts. for any distance from 59th avenue and Wells to Wauwatosa ave. and Watertown Plank Road, plus 2 cts. for any distance from Wauwatosa ave. and Watertown Plank Road to the present terminus at County Building; and vice versa.

Walnut—Wauwatosa. City fare from any point within the single fare limits of the city of Milwaukee to Pabst and Spring avenue, plus 2 cts. for any distance from Pabst and Spring avenue to the present terminus on Wauwatosa avenue; and vice versa.

c. For suburban passenger service on the Wanderer's Rest Cemetery line:

Walnut—Wanderer's Rest. City fare from any point within the single fare limits of the city of Milwaukee to North and Lisbon, plus 2 cts. for any distance from North and Lisbon to Spring avenue and Lisbon, plus 2 cts. for any distance from

Spring avenue and Lisbon to the present terminus; and vice versa.

d. For suburban passenger service to and through the city of North Milwaukee:

12th—North Milwaukee. City fare from any point within the single fare limits of the city of Milwaukee to 27th and Pease, plus 2 cts. for any distance from 27th and Pease to Hampton avenue, plus 2 cts. for any distance from Hampton avenue to the present terminus at Wallace avenue; and vice versa.

e. For suburban passenger service to and through Whitefish Bay and Fox Point:

Oakland Avenue—Fox Point. City fare from any point within the single fare limits of the city of Milwaukee to Oakland and Newton, plus 2 cts. for any distance from Oakland and Newton to Glendale, plus 2 cts. for any distance from Glendale to Whitefish Bay Park, plus 2 cts. for any distance from Whitefish Bay Park to Lake View, plus 2 cts. for any distance from Lake View to the present north limits of Whitefish Bay, plus 2 cts. for any distance from north limits of Whitefish Bay to Daisy Fields, plus 2 cts. for any distance from Daisy Fields to the present Fox Point terminus; and vice versa.

f. For suburban passenger service to and through South Milwaukee:

Public Service Building—South Milwaukee. City fare from any point within the single fare limits of the city of Milwaukee to Kinnickinnic and Oklahoma avenue, plus 2 cts. for any distance from Oklahoma avenue to Thompson avenue, plus 2 cts. for any distance from Thompson avenue to Cudahy Depot, plus 2 cts. for any distance from Cudahy Depot to Underwood avenue, plus 2 cts. for any distance from Underwood avenue to Thrintheimer's Park, plus 2 cts. for any distance from Thrintheimer's Park to Beach street, plus 2 cts. for any distance from Beach street to Marquette avenue and Chicago Road or Marquette avenue and 5th avenue, plus 2 cts. for any distance from Marquette avenue to the present south city limits of South Milwaukee; and vice versa.

g. For suburban passenger service to and through Tippecanoe:

Howell Avenue—Tippecanoe. City fare from any point within the single fare limits of the city of Milwaukee to Howell avenue and Oklahoma avenue, plus 2 cts. for any distance from

Oklahoma avenue to Tippecanoe, plus 2 cts. for any distance from Tippecanoe to the present terminus of the line; and vice versa.

h. For any local suburban haul originating and terminating beyond the single fare limits of the city of Milwaukee the fare shall be computed in like manner as the suburban components of the above rates of fare. The minimum fare for any such haul shall be 5 cts.

i. Children under three years of age shall be carried free. Children between the ages of three and ten years, inclusive, shall be carried for one-half the full fare.

j. Passengers paying the fares herein authorized shall be entitled to the privilege of the usual transfers within the single fare limits of the city of Milwaukee and to transfers upon the several suburban lines, provided, however, that no such transfer shall operate to compel the companies to carry a passenger on the suburban lines for less than the regular fare for each 2 ct. distance or fraction thereof on each line, as hereinbefore prescribed, within which such passenger rides.

k. The single fare limits of the city of Milwaukee shall be as set forth herein, and all so-called "overlapping fare zones" shall be abandoned.

II. INTERURBAN.

a. For "through interurban passenger service" upon the Milwaukee–Waukesha–Oconomowoc–Watertown line a uniform rate of 2 cts. per mile computed to the nearest 1 ct. for the actual mileage except the mileage included within the single fare limits of the city of Milwaukee to 62nd and Greenfield for which the charge shall in every case be computed at 4 cts., and the mileage between the Steel Works stop, Waukesha, and present west limits of Waukesha, and between Humboldt street, Watertown, and present end of line in Watertown, for which the charge shall in each case be computed as 5 cts. For all through interurban passenger service to or from the city of Milwaukee the rate per passenger service shall be:

No.	Stops or zone points.	Total distance, miles.	Through rate per passenger in cents.
0	Public Service Building	0	0
1	62nd and Greenfield	5.34	.....
2	77th and Summitt	6.42	.....
3	Woodlawn	6.95	.....
4	County Line	9.03	11
5	Woodmont Club	9.54	12
6	Sunny Slope	10.06	13
7	Moorland	11.07	15
8	Calhoun	12.06	17
9	Springdale	15.07	23
10	Steel Works, Waukesha	16.18	26
11	West Limits, Waukesha	18.73	31
12	North View	19.47	32
13	Silverdale	20.72	35
14	Meadowbrook	21.67	37
15	Edgewood	22.69	39
16	Waukesha Beach	23.02	40
17	Oakton	23.69	41
18	Elmhurst	24.07	42
19	Glencove	24.57	43
20	Buena Vista	25.57	45
21	West Hartland Road	26.56	47
22	Nagawicka	27.21	48
23	Government Hill Road	27.91	49
24	Delafield (Genesee st.)	28.42	50
25	Nemahbin Lake	29.47	52
26	Summit Center	30.42	54
27	Interlaken	30.92	55
28	Norwood	31.39	56
29	Nashotah	31.73	57
30	Dousman	33.14	60
31	Silver Lake	34.40	62
32	Oconomowoc (2nd and Franklin depot)	36.40	66
33	LaBelle Road	37.91	69
34	Sullivan Road	38.91	71
35	Hillside	39.79	73
36	Ixonia	41.21	76
37	Pipersville	43.60	81
38	Hustisford Road	44.41	82
39	Town Line Road	45.05	84
40	River Road	45.94	85
41	South Watertown Road	46.92	87
42	Humboldt St.	47.97	89
43	West End of Line, Watertown	50.40	94

"Through interurban passenger service" as here used is defined as passenger service between any point within the single fare limits of Milwaukee and points beyond Woodlawn stop.

For passengers riding locally between the city of Milwaukee and Woodlawn, the charge shall in every case be the same as the rate of fare for suburban service previously authorized herein.

The rates of fare per passenger for all interurban service between points without the single fare limits of the city of Milwaukee shall be the difference between the through rates to those points. The rates thus computed are shown upon the table of rates below.

The rates of fare for any intermediate point not listed herein shall be computed in like manner as above, provided, however, that if such intermediate point lie between 62nd avenue and Woodlawn the rate of fare shall be computed as to the zone boundary next nearest to the city of Milwaukee.

The minimum fare for any haul shall be 5 cts.

THE MILWAUKEE ELECTRIC

TABLE SHOWING RATES OF FARE FOR THROUGH INTERURBAN PASSENGER

For Passengers Riding Locally Between the City of Milwaukee and Wood-

Station No.	Distance.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
0	0.00	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	....
1	5.34	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	....
2	6.42	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	....
3	6.95	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	....
4	9.03	.11	.07	.05	.05	.00	...	...	...	...	...	...	...	...	...	...	...	...	...	....
5	9.54	.12	.08	.06	.05	.05	.00	...	...	...	...	...	...	...	...	...	...	...	...	....
6	10.06	.13	.09	.07	.05	.05	.05	.00	...	...	...	...	...	...	...	...	...	...	...	....
7	11.07	.15	.11	.09	.07	.05	.05	.05	.00	...	...	...	...	...	...	...	...	...	...	....
8	12.06	.17	.13	.11	.09	.06	.05	.05	.05	.00	...	...	...	...	...	...	...	...	...	....
9	15.07	.23	.19	.17	.15	.12	.11	.10	.08	.06	.00	...	...	...	...	...	...	...	...	....
10	16.18	.26	.22	.20	.18	.15	.14	.13	.11	.09	.05	.00	...	...	...	...	...	...	...	....
11	18.73	.31	.27	.25	.23	.20	.19	.18	.16	.14	.08	.05	.00	...	...	...	...	...	...	....
12	19.47	.32	.28	.26	.24	.21	.20	.19	.17	.15	.09	.06	.05	.00	...	...	...	...	...	....
13	20.72	.35	.31	.29	.27	.24	.23	.22	.20	.18	.12	.09	.05	.05	.00	...	...	...	...	....
14	21.67	.37	.33	.31	.29	.26	.25	.24	.22	.20	.14	.11	.06	.05	.05	.00	...	...	...	....
15	22.69	.39	.35	.33	.31	.28	.27	.26	.24	.22	.16	.13	.08	.07	.05	.05	.00	...	...	....
16	23.02	.40	.36	.34	.32	.29	.28	.27	.25	.23	.17	.14	.09	.08	.05	.05	.05	.00	...	....
17	23.69	.41	.37	.35	.33	.30	.29	.28	.26	.24	.18	.15	.10	.09	.06	.05	.05	.05	.00	....
18	24.07	.42	.38	.36	.34	.31	.30	.29	.27	.25	.19	.16	.11	.10	.07	.05	.05	.05	.05	.00
19	24.57	.43	.39	.37	.35	.32	.31	.30	.28	.26	.20	.17	.12	.11	.08	.06	.05	.05	.05	.05
20	25.57	.45	.41	.39	.37	.34	.33	.32	.30	.28	.22	.19	.14	.13	.10	.08	.06	.05	.05	.05
21	26.56	.47	.43	.41	.39	.36	.35	.34	.32	.30	.24	.21	.16	.15	.12	.10	.08	.07	.06	.05
22	27.21	.48	.44	.42	.40	.37	.36	.35	.33	.31	.25	.22	.17	.16	.13	.11	.09	.08	.07	.06
23	27.91	.49	.45	.43	.41	.38	.37	.36	.34	.32	.26	.23	.18	.17	.14	.12	.10	.09	.08	.07
24	28.42	.50	.46	.44	.42	.39	.38	.37	.35	.33	.27	.24	.19	.18	.15	.13	.11	.10	.09	.08
25	29.47	.52	.48	.46	.44	.41	.40	.39	.37	.35	.29	.26	.21	.20	.17	.15	.13	.12	.11	.10
26	30.42	.54	.50	.48	.46	.43	.42	.41	.39	.37	.31	.28	.23	.22	.19	.17	.15	.14	.13	.12
27	30.92	.55	.51	.49	.47	.44	.43	.42	.40	.38	.32	.29	.24	.23	.20	.18	.16	.15	.14	.13
28	31.39	.56	.52	.50	.48	.45	.44	.43	.41	.39	.33	.30	.25	.24	.21	.19	.17	.16	.15	.14
29	31.75	.57	.53	.51	.49	.46	.45	.44	.42	.40	.34	.31	.26	.25	.22	.20	.18	.17	.16	.15
30	33.14	.60	.56	.54	.52	.49	.48	.47	.45	.43	.37	.34	.29	.28	.25	.23	.21	.20	.19	.18
31	34.40	.62	.58	.56	.54	.51	.50	.49	.47	.45	.39	.36	.31	.30	.27	.25	.23	.22	.21	.20
32	36.40	.66	.62	.60	.58	.55	.54	.53	.51	.49	.43	.40	.35	.34	.31	.29	.27	.26	.25	.24
33	37.91	.69	.65	.63	.61	.58	.57	.56	.54	.52	.46	.43	.38	.37	.34	.32	.30	.29	.28	.27
34	38.91	.71	.67	.65	.63	.60	.59	.58	.56	.54	.48	.45	.40	.39	.36	.34	.32	.31	.30	.29
35	39.79	.73	.69	.67	.65	.62	.61	.60	.58	.56	.50	.47	.42	.41	.38	.36	.34	.33	.32	.31
36	41.21	.76	.72	.70	.68	.65	.64	.63	.61	.59	.53	.50	.45	.44	.41	.39	.37	.36	.35	.34
37	43.60	.81	.77	.75	.73	.70	.69	.68	.66	.64	.58	.55	.50	.49	.46	.44	.42	.41	.40	.39
38	44.41	.82	.78	.76	.74	.71	.70	.69	.67	.65	.59	.56	.51	.50	.47	.45	.43	.42	.41	.40
39	45.05	.84	.80	.78	.76	.73	.72	.71	.69	.67	.61	.58	.53	.52	.49	.47	.45	.44	.43	.42
40	45.94	.85	.81	.79	.77	.74	.73	.72	.70	.68	.62	.59	.54	.53	.50	.48	.46	.45	.44	.43
41	46.92	.87	.83	.81	.79	.76	.75	.74	.72	.70	.64	.61	.56	.55	.52	.50	.48	.47	.46	.45
42	47.97	.89	.85	.83	.81	.78	.77	.76	.74	.72	.66	.63	.58	.57	.54	.52	.50	.49	.48	.47
43	50.40	.94	.90	.88	.86	.83	.82	.81	.79	.77	.71	.68	.63	.62	.59	.57	.55	.54	.53	.52

b. For "through interurban passenger service" upon the Milwaukee–Muskego Lakes–East Troy Line and the Milwaukee–Waterford–Burlington Line a uniform rate of 2 cts per mile computed to the nearest 1 ct. for the actual mileage except the mile-

RAILWAY AND LIGHT COMPANY.

SERVICE UPON THE MILWAUKEE-WAUKESHA-OCONOMOWOC-WATERTOWN LINE.

lawn Avenue, Rate of Fare Shall be as Provided for Suburban Service.

19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
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.05	.05	.05	.00	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
.06	.05	.05	.05	.00	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
.07	.05	.05	.05	.05	.00	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
.09	.07	.05	.05	.05	.05	.00	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
.11	.09	.07	.06	.05	.05	.05	.00	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
.12	.10	.08	.07	.06	.05	.05	.05	.00	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
.13	.11	.09	.08	.07	.06	.05	.05	.05	.00	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
.14	.12	.10	.09	.08	.07	.05	.05	.05	.05	.00	...	...	...	...	...	...	...	...	...	...	...	...	...	...
.17	.15	.13	.12	.11	.10	.08	.06	.05	.05	.05	.00	...	...	...	...	...	...	...	...	...	...	...	...	...
.19	.17	.15	.14	.13	.12	.10	.08	.07	.06	.05	.05	.00	...	...	...	...	...	...	...	...	...	...	...	...
.23	.21	.19	.18	.17	.16	.14	.12	.11	.10	.09	.06	.05	.00	...	...	...	...	...	...	...	...	...	...	...
.26	.24	.22	.21	.20	.19	.17	.15	.14	.13	.12	.09	.07	.05	.00	...	...	...	...	...	...	...	...	...	...
.28	.26	.24	.23	.22	.21	.19	.17	.16	.15	.14	.11	.09	. 5	.05	.00	...	...	...	...	...	...	...	...	...
.30	.28	.26	.25	.24	.23	.21	.19	.18	.17	.16	.13	.11	.07	.05	.05	.00	...	...	...	...	...	...	...	...
.33	.31	.29	.28	.27	.26	.24	.22	.21	.20	.19	.16	.14	.10	.07	.05	.05	.00	...	...	...	...	...	...	...
.38	.36	.34	.33	.32	.31	.29	.27	.26	.25	.24	.21	.19	.15	.12	.10	.08	.05	.00	...	...	...	...	...	...
.39	.37	.35	.34	.33	.32	.30	.28	.27	.26	.25	.22	.20	.16	.13	.11	.09	.06	.05	.00	...	...	...	...	...
.41	.39	.37	.36	.35	.34	.32	.30	.29	.28	.27	.24	.22	.18	.15	.13	.11	.08	.05	.05	.00	...	...	...	...
.42	.40	.38	.37	.36	.35	.33	.31	.30	.29	.28	.25	.23	.19	.16	.14	.12	.09	.05	.05	.05	.00	...	...	...
.44	.42	.40	.39	.38	.37	.35	.33	32	.31	.30	.27	.25	.21	.18	.16	.14	.11	.06	.05	.05	.05	.00	...	...
.46	.44	.42	.41	.40	.39	.37	.35	.34	.33	.32	.29	.27	.23	.20	.18	.16	.13	.08	.07	.05	.05	.05	.00	..
.51	.49	.47	.46	.45	.44	.42	.40	.39	.38	.37	.34	.32	.28	.25	.23	.21	.18	.13	.12	.10	.09	.07	.05	.00

age included within the single fare limits of the city of Milwaukee to 51st avenue and Burnham street, for which the charge shall, in every case, be computed at 4 cts. and the mileage between Burlington Limits stop and the present terminus of the

line in Burlington for which the charge shall, in every case, be computed at 5 cts. For all through interurban passenger service to or from the city of Milwaukee, the rate per passenger shall be:

No.	Stops of zone points.	Total distance, miles.	Through rate per passenger in cents.
0	Public Service Building	0	0
1	51st and Burnham	5.81	.....
2	77th and George	7.43	.....
3	Woodlawn	7.95	.....
4	Fruitland	8.59	10
5	Turn Stile	8.75	10
6	Shooting Park	9.22	11
7	Beloit Road	9.85	12
8	Greenwood	10.38	13
9	Cold Spring Road	10.85	14
10	Brooklyn	11.46	15
11	Boulder Road	11.96	16
12	Ridge Road	12.37	17
13	Hales Corners	13.05	18
14	Town Line	13.61	20
15	Woods Road	14.09	21
16	Valley View	14.62	22
17	St. Martins	15.60	24
18	North Cape Road	16.08	25
19	Tees Corners Road	17.42	27
20	Bass Bay	18.68	30
21	Muskego Center	19.73	32
22	Kingstons	19.93	32
23	Prospect	21.89	36
24	Chamberlain	22.79	38
25	Big Bend	23.45	39
26	Vernon Center Road	25.65	44
27	Mukwonago	30.02	52
28	Phantom Lake	30.69	54
29	Troy Center Road	31.16	55
30	Beulah Lake	32.46	57
31	Winema	32.96	58
32	Army Lake	34.08	61
33	St. Peters Road	34.67	62
34	Oak Ridge	35.43	63
35	East Troy	36.26	65
0	Public Service Building	0	0
17	St. Martins	15.60	24
18	Durham Hill	18.14	29
19	Channel Road	19.97	32
20	Muskego Dam Road	21.03	34
21	Wind Lake Road	23.22	39
22	Edgewater	23.62	40
23	Waubesee Road	24.30	41
24	Norway	25.18	43
25	Town Line of Waterford	26.89	46
26	Waterford	28.54	49
27	Dover Road	29.12	51
28	Rochester	30.20	53
29	Bellwood Road	32.75	58
30	Burlington Limits Stop	34.09	61
31	End of Line	36.38	66

"Through interurban passenger service" as here used is defined as passenger service between any point within the single fare limits of Milwaukee and points beyond Woodlawn stop.

For passengers riding locally between the city of Milwaukee and Woodlawn, the charge shall in every case be the same as the rate of fare for suburban service previously authorized herein.

The rates of fare per passenger for all interurban service between points without the single fare limits of the city of Milwaukee shall be the difference between the through rates to those points. The rates thus computed are shown upon the table of rates below.

The rates of fare for any intermediate point, not listed herein, and between any such point and any other point shall be computed in like manner as above, provided, however, that if such intermediate point lie between 51st avenue and Woodlawn the rate of fare shall be computed as to the zone boundary next nearest to the city of Milwaukee.

The minimum fare for any haul shall be 5 cts.

THE MILWAUKEE ELECTRIC

TABLE SHOWING RATES OF FARE FOR THROUGH INTERURBAN PASSENGER

For Passengers Riding Locally Between the City of Milwaukee and

Station No.	Distance.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0	0	....	....	....	....	....	....	....	....	....	....	....	...	....	....	....	....
1	5.81	....	....	....	....	....	....	....	....	....	....	....	...	....	....	....	....
2	7.43	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
3	7.95	....	....	....	..	....	....	....	....	....	....	....	....	....	....	...	....
4	8.59	.10	.06	.05	.05	.00	....	....	....	....	....	....	....	....	....	....	....
5	8.75	.10	.06	.05	.05	.05	.00	....	....	....	....	....	....	....	....	....	....
6	9.22	.11	.07	.05	.05	.05	.05	.00	....	....	....	....	....	....	....	....	....
7	9.85	.12	.08	.06	.05	.06	.05	.05	.00	....	....	....	....	....	....	....	....
8	10.38	.13	.09	.07	.05	.05	.05	.05	.05	.00	....	....	....	....	....	....	....
9	10.85	.14	.10	.08	.06	.05	.05	.05	.05	.05	.00	....	....	....	....	....	....
10	11.46	.15	.11	.09	.07	.05	.05	.05	.05	.05	.05	.00	....	....	....	....	....
11	11.96	.16	.12	.10	.08	.06	.06	.05	.05	.05	.05	.05	.00	....	....	...	....
12	12.37	.17	.13	.11	.09	.07	.07	.06	.05	.05	.05	.05	.05	.00	....	...	....
13	13.05	.18	.14	.12	.10	.08	.08	.07	.06	.05	.05	.05	.05	.05	.00	....	....
14	13.61	.20	.16	.14	.12	.10	.10	.09	.08	.07	.06	.05	.05	.05	.05	.00	...
15	14.09	.21	.17	.15	.13	.11	.11	.10	.09	.08	.07	.06	.05	.05	.05	.05	.00
16	14.62	.22	.18	.16	.14	.12	.12	.11	.10	.09	.08	.07	.06	.05	.05	.05	.05
17	15.60	.24	.20	.18	.16	.14	.14	.13	.12	.11	.10	.09	.08	.07	.06	.05	.05
18	16.08	.25	.21	.19	.17	.15	.15	.14	.13	.12	.11	.10	.09	.08	.07	.06	.05
19	17.42	.27	.23	.21	.19	.17	.17	.16	.15	.14	.13	.12	.11	.10	.09	.07	.06
20	18.68	.30	.26	.24	.22	.20	.20	.19	.18	.17	.16	.15	.14	.13	.12	.10	.09
21	19.73	.39	.28	.26	.24	.22	.22	.21	.20	.19	.18	.17	.16	.15	.14	.12	.11
22	19.93	.32	.28	.26	.24	.22	.22	.21	.20	.19	.18	.17	.16	.15	.14	.12	.11
23	21.89	.36	.32	.30	.28	.26	.26	.25	.24	.23	.22	.21	.20	.19	.18	.16	.15
24	22.79	.38	.34	.32	.30	.28	.28	.27	.26	.25	.24	.23	.22	.21	.20	.18	.17
25	23.45	.39	.35	.33	.31	.29	.29	.28	.27	.26	.25	.24	.23	.22	.21	.19	.18
26	25.65	.44	.40	.38	.36	.34	.34	.33	.32	.31	.30	.29	.28	.27	.26	.24	.23
27	30.02	.52	.48	.46	.44	.42	.42	.41	.40	.39	.38	.37	.36	.35	.34	.32	.31
28	30.69	.54	.50	.48	.46	.44	.44	.43	.42	.41	.40	.39	.38	.37	.36	.34	.33
29	31.16	.55	.51	.49	.47	.45	.45	.44	.43	.42	.41	.40	.39	.38	.37	.35	.34
30	32.46	.57	.53	.51	.49	.47	.47	.46	.45	.44	.43	.42	.41	.40	.39	.37	.36
31	32.96	.58	.54	.52	.50	.48	.48	.47	.46	.45	.44	.43	.42	.41	.40	.38	.37
32	34.08	.61	.57	.55	.53	.51	.51	.50	.49	.48	.47	.46	.45	.44	.43	.41	.40
33	34.67	.62	.58	.56	.54	.52	.52	.51	.50	.49	.48	.47	.46	.45	.44	.42	.41
34	35.43	.63	.59	.57	.55	.53	.53	.52	.51	.50	.49	.48	.47	.46	.45	.43	.42
35	36.26	.65	.61	.59	.57	.55	.55	.54	.53	.52	.51	.50	.49	.48	.47	.45	.44

RAILWAY & LIGHT CO.

SERVICE UPON THE MILWAUKEE-MUSKEGO LAKES-EAST TROY LINE.

Woodlawn Avenue, Rate of Fare Shall be as Provided for Suburban Service.

16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
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.08	.06	.05	.05	.00	....	...	....	....	....	....	....	....	....	....	....	....	....	....	....
.10	.08	.07	.05	.05	.00	....	....	....	....	....	....	....	....	....	....	....	....	....	....
.10	.08	.07	.05	.05	.05	.00	....	....	....	....	....	....	....	....	....	....	....	....	....
.14	.12	.11	.09	.06	.05	.05	.00	...	....	....	....	....	....	....	....	....	....	..	....
.16	.14	.13	.11	.08	.06	.06	.05	.00	...	....	....	....	....	....	....	....	....	....	....
.17	.15	.14	.12	.09	.07	.07	.05	.05	.00	....	....	....	....	....	....	....	....	....	....
.22	.20	.19	.17	.14	.12	.12	.08	.06	.05	.00	....	....	....	....	....	....	....	....	....
.30	.28	.27	.25	.22	.20	.20	.16	.14	.13	.08	.00	....	....	....	....	....	. ..	....	....
.32	.30	.29	.27	.24	.22	.22	.18	.16	.15	.10	.05	.00	....	....	....	....	...	....	....
.33	.31	.30	.28	.25	.23	.23	.19	.17	.16	.11	.05	.05	.00	....	....	....	....	....	....
.35	.33	.32	.30	.27	.25	.25	.21	.19	.18	.13	.05	.05	.05	.00	....	....	....	....	....
.36	.34	.33	.31	.28	.26	.26	.22	.20	.19	.14	.06	.05	.05	.05	.00	....	....	....	....
.39	.37	.36	.34	.31	.29	.29	.25	.23	.22	.17	.09	.07	.06	.05	.05	.00	....	....	....
.40	,38	.37	.35	.32	.30	.30	.26	.24	.23	.18	.10	.08	.07	.05	.05	.05	.00	....	....
.41	.39	.38	.36	.33	.31	.31	.27	.25	.24	.19	.11	.09	.08	.06	.05	.05	.05	.00	....
.43	.41	.40	.38	.35	.33	.33	.29	.27	.26	.21	.13	.11	.10	.08	.07	.05	.05	.05	.00

THE MILWAUKEE ELECTRIC

TABLE SHOWING RATES OF FARE FOR THROUGH INTERURBAN

For Passengers Riding Locally Between the City of Milwaukee and Woodlawn

Station number.	Distance.	0	1	2	3	4	5	6	7	8	9	10
1	5.81	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
2	7.43	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
3	7.95	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
4	8.59	.10	.06	.05	.05	.00	.....	.....	.....	.....	.....	.....
5	8.75	.10	.06	.05	.05	.05	.00	.....	.....	.....	.....	.....
6	9.22	.11	.07	.05	.05	.05	.05	.00	.....	.....	.....	.....
7	9.85	.12	.08	.06	.05	.05	.05	.05	.00	.....	.....	.....
8	10.38	.13	.09	.07	.05	.05	.05	.05	.05	.00	.....	.....
9	10.85	.14	.10	.08	.06	.05	.05	.05	.05	.05	.00	.....
10	11.46	.15	.11	.09	.07	.05	.05	.05	.05	.05	.05	.00
11	11.96	.16	.12	.10	.08	.06	.06	.05	.05	.05	.05	.05
12	12.37	.17	.13	.11	.09	.07	.07	.06	.05	.05	.05	.05
13	13.05	.18	.14	.12	.10	.08	.08	.07	.06	.05	.05	.05
14	13.61	.20	.16	.14	.12	.10	.10	.09	.08	.07	.06	.05
15	14.09	.21	.17	.15	.13	.11	.11	.10	.09	.08	.07	.06
16	14.62	.22	.18	.16	.14	.12	.12	.11	.10	.09	.08	.07
17	15.60	.24	.20	.18	.16	.14	.14	.13	.12	.11	.10	.09
18	18.14	.29	.25	.23	.21	.19	.19	.18	.17	.16	.15	.14
19	19.97	.32	.28	.26	.24	.22	.22	.21	.20	.19	.18	.17
20	21.03	.34	.30	.28	.26	.24	.24	.23	.22	.21	.20	.19
21	23.22	.39	.35	.33	.31	.29	.29	.28	.27	.26	.25	.24
22	23.62	.40	.36	.34	.32	.30	.30	.29	.28	.27	.26	.25
23	24.30	.41	.37	.35	.33	.31	.31	.30	.29	.28	.27	.26
24	25.18	.43	.39	.37	.35	.33	.33	.32	.31	.30	.29	.28
25	26.89	.46	.42	.40	.38	.36	.36	.35	.34	.33	.32	.31
26	28.54	.49	.45	.43	.41	.39	.39	.38	.37	.36	.35	.34
27	29.12	.51	.47	.45	.43	.41	.41	.40	.39	.38	.37	.36
28	30.20	.53	.49	.47	.45	.43	.43	.42	.41	.40	.39	.38
29	32.75	.58	.54	.52	.50	.48	.48	.47	.46	.45	.44	.43
30	34.09	.61	.57	.55	.53	.51	.51	.50	.49	.48	.47	.46
31	36.38	.66	.62	.60	.58	.56	.56	.55	.54	.53	.52	.51

RAILWAY & LIGHT CO

PASSENGER SERVICE UPON THE MILWAUKEE-WATERFORD-BURLINGTON LINE.

Avenue, Rate of Fare Shall be as Provided for Suburban Service.

11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
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.06	.05	.05	.05	.05	.00	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
.08	.07	.06	.05	.05	.05	.00	....	....	....	....	....	...	....	....	....	....	. ..	....	....	...
.13	.12	.11	.09	.08	.07	.05	.00	....	....	....	....	....	....	....	....	. ..	....	....	....	....
.16	.15	.14	.12	.11	.10	.08	.05	.00	....	....	....	....	....	....	....	....	....	....	....	....
.18	.17	.16	.14	.13	.12	.10	.05	.05	.00	....	....	....	....	....	....	....	....	....	....	....
.23	.22	.21	.19	.18	.17	.15	.10	.07	.05	.00	....	....	....	....	....	....	....	....	....	....
.24	.23	.22	.20	.19	.18	.16	.11	.08	.06	.05	.00	....	....	....	....	....	....	....	....	....
.25	.24	.23	.21	.20	.19	.17	.12	.09	.07	.05	.05	.00	...	....	....	....	....	....	. .	....
.27	.26	.25	.23	.22	.21	.19	.14	.11	.09	.05	.05	.05	.00	...	....	....	....	....	....	....
.30	.29	.28	.26	.25	.24	.22	.17	.14	.12	.07	.06	.05	.05	.00	....	....	....	....	....	....
.33	.32	.31	.29	.28	.27	.25	.20	.17	.15	.10	.09	.08	.06	.05	.00	....	....	....	....	....
.35	.34	.33	.31	.30	.29	.27	.22	.19	.17	.12	.11	.10	.08	.05	.05	.00	....	....	....	....
.37	.36	.35	.33	.32	.31	.29	.24	.21	.19	.14	.13	.12	.10	.07	.05	.05	.00	....	....	...
.42	.41	.40	.38	.37	.36	.34	.29	.26	.24	.19	.18	.17	.15	.12	.09	.07	.05	.00	....	....
.45	.44	.43	.41	.40	.39	.37	.32	.29	.27	.22	.21	.20	.18	.15	.12	.10	.08	.05	.00	....
.50	.49	.48	.46	.45	.44	.42	.37	.34	.32	.27	.26	.25	.23	.20	.17	.15	.13	.08	.05	.00

c. For "through interurban passenger service" upon the Milwaukee–Racine–Kenosha Line, a uniform rate of 2 cts. per mile computed to the nearest 1 ct. for the actual mileage, except the mileage included within the single fare limits of the city of Milwaukee to Oklahoma avenue for which the charge shall in every case be computed at 4 cts., and the distance between Gould street and 23rd and Mead street in the city of Racine for which the charge shall in every case be computed at 5 cts. For all through interurban passenger service to or from the city of Milwaukee the rate per passenger shall be:

No.	Stops of zone points.	Total distance, miles.	Through rate per passenger in cents.
0	Public Service Building	0	0
1	Kinnickinnic and Oklahoma	4.22	.....
2	Thompson ave., St. Francis	5.44	.....
3	Cudahy Depot	6.23	.....
4	Underwood ave., Cudahy	7.22	.....
5	Thrintheimer's Park	8.22	.....
6	Beach st., South Milwaukee	9.22	.....
7	Marquette and So. Chicago Road	10.36	.....
8	South Limits, So. Milwaukee	11.39	.....
9	Puetz Road	11.90	19
10	Carrollville Road	12.53	21
11	Ryan's Road	12.99	22
12	Fitzsimmons Road	13.49	23
13	Oakwood Road	14.02	24
14	Elmroad	14.52	25
15	County Line North	15.05	26
16	County Line South	15.41	26
17	Seven Mile Road	16.28	28
18	Crooks Curve	16.64	29
19	Six Mile Road	17.36	30
20	Tabor	17.76	31
21	Willow Creek	18.08	32
22	Five Mile Road	18.43	32
23	School House	18.87	33
24	Four and One-half Mile Road	19.12	34
25	Four Mile Road	19.72	35
26	Ives (North Limits)	20.18	36
27	Ives	20.39	36
28	Ives Railroad Crossing	20.77	37
29	Brown's	21.26	38
30	Pflueger	21.54	39
31	Melvin ave.	21.80	39
32	Gould st., Racine	22.30	40
33	23rd and Mead sts., Racine	26.41	45
34	Larson st.	27.11	46
35	Jacksons	27.44	47
36	Chicory Road	27.92	48
37	Center Mt. Pleasant Siding	28.51	49
38	South End Mt. Pleasant Siding	28.79	50
39	Kenosha County Line	29.02	50
40	Pipers Park	29.47	51
41	Berryville Road	30.05	52
42	Curtis	30.49	53
43	Central Park	30.98	54
44	Obert	31.41	55
45	Miller	31.71	56
46	Pike River Road	32.28	57
47	Pike River Road	32.64	57
48	Macwhyte	33.03	58
49	Kenosha North Limits	33.78	60

"Through interurban passenger service" as here used is defined as passenger service between any point within the single fare limits of Milwaukee and points beyond South Limits, South Milwaukee.

For passengers riding locally between the city of Milwaukee and South Limits, South Milwaukee, the charge shall in every case be the same as the rate of fare for suburban service previously authorized herein.

The rates of fare per passenger for all interurban service between points without the single fare limits of the city of Milwaukee shall be the difference between the through rates to those points. The rates thus computed are shown upon the table of rates below.

The rates of fare for any intermediate point not listed herein shall be computed in like manner as above; provided, however, that if such intermediate point lie between Oklahoma avenue and South Milwaukee, South Limits, the rate of fare shall be computed as to the zone boundary next nearest to the city of Milwaukee.

The minimum fare for any haul shall be 5 cts.

THE MILWAUKEE ELECTRIC

TABLE SHOWING RATES OF FARE FOR THROUGH INTERURBAN

For Passsngers Riding Locally Between the City of Milwaukee and South Limits,

Station No.	Distance.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
0	0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	....
1	4.22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	....
2	5.44	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	....
3	6.23	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	....
4	7.22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	....
5	8.22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	....
6	9.22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	....
7	10.36	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	....
8	11.39	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	....
9	11.90	.19	.15	.13	.11	.09	.07	.05	.05	.05	.00	...	...	...	...	...	...	...	...	...	...	...	....
10	12.53	.21	.17	.15	.13	.11	.09	.07	.05	.05	.05	.00	...	...	...	...	...	...	...	...	...	...	....
11	12.99	.22	.18	.16	.14	.12	.10	.08	.06	.05	.05	.05	.00	...	...	...	...	...	...	...	...	...	....
12	13.49	.23	.19	.17	.15	.13	.11	.09	.07	.05	.05	.05	.05	.00	...	...	...	...	...	...	...	...	....
13	14.02	.24	.20	.18	.16	.14	.12	.10	.08	.06	.05	.05	.05	.05	.00	...	...	...	...	...	...	...	....
14	14.52	.25	.21	.19	.17	.15	.13	.11	.09	.07	.06	.05	.05	.05	.05	.00	...	...	...	...	...	...	....
15	15.05	.26	.22	.20	.18	.16	.14	.12	.10	.08	.07	.05	.05	.05	.05	.05	.00	...	...	...	...	...	....
16	15.41	.26	.22	.20	.18	.16	.14	.12	.10	.08	.07	.05	.05	.05	.05	.05	.05	.00	...	...	...	...	....
17	16.28	.28	.24	.22	.20	.18	.16	.14	.12	.10	.09	.07	.06	.05	.05	.05	.05	.05	.00	...	...	...	....
18	16.64	.29	.25	.23	.21	.19	.17	.15	.13	.11	.10	.08	.07	.06	.05	.05	.05	.05	.05	.00	...	...	....
19	17.36	.30	.26	.24	.22	.20	.18	.16	.14	.12	.11	.09	.08	.07	.06	.05	.05	.05	.05	.05	.00	...	....
20	17.76	.31	.27	.25	.23	.21	.19	.17	.15	.13	.12	.10	.09	.08	.07	.06	.05	.05	.05	.05	.05	.00	....
21	18.08	.32	.28	.26	.24	.22	.20	.18	.16	.14	.13	.11	.10	.09	.08	.07	.06	.06	.05	.05	.05	.05	.00
22	18.43	.32	.28	.26	.24	.22	.20	.18	.16	.14	.13	.11	.10	.09	.08	.07	.06	.06	.05	.05	.05	.05	.05
23	18.87	.33	.29	.27	.25	.23	.21	.19	.17	.15	.14	.12	.11	.10	.09	.08	.07	.07	.05	.05	.05	.05	.05
24	19.12	.34	.30	.28	.26	.24	.22	.20	.18	.16	.15	.13	.12	.11	.10	.09	.08	.08	.06	.05	.05	.05	.05
25	19.72	.35	.31	.29	.27	.25	.23	.21	.19	.17	.16	.14	.13	.12	.11	.10	.09	.09	.07	.06	.05	.05	.05
26	20.18	.36	.32	.30	.28	.26	.24	.22	.20	.18	.17	.15	.14	.13	.12	.11	.10	.10	.08	.07	.06	.05	.05
27	20.39	.36	.32	.30	.28	.26	.24	.22	.20	.18	.17	.15	.14	.13	.12	.11	.10	.10	.08	.07	.06	.05	.05
28	20.77	.37	.33	.31	.29	.27	.25	.23	.21	.19	.18	.16	.15	.14	.13	.12	.11	.11	.09	.08	.07	.06	.05
29	21.26	.38	.34	.32	.30	.28	.26	.24	.22	.20	.19	.17	.16	.15	.14	.13	.12	.12	.10	.09	.08	.07	.06
30	21.54	.39	.35	.33	.31	.29	.27	.25	.23	.21	.20	.18	.17	.16	.15	.14	.13	.13	.11	.10	.09	.08	.07
31	21.80	.39	.35	.33	.31	.29	.27	.25	.23	.21	.20	.18	.17	.16	.15	.14	.13	.13	.11	.10	.09	.08	.07
32	22.30	.40	.36	.34	.32	.30	.28	.26	.24	.22	.21	.19	.18	.17	.16	.15	.14	.14	.12	.11	.10	.09	.08
33	26.41	.45	.41	.39	.37	.35	.33	.31	.29	.27	.26	.24	.23	.22	.21	.20	.19	.19	.17	.16	.15	.14	.13
34	27.11	.46	.42	.40	.38	.36	.34	.32	.30	.28	.27	.25	.24	.23	.22	.21	.20	.20	.18	.17	.16	.15	.14
35	27.44	.47	.43	.41	.39	.37	.35	.33	.31	.29	.28	.26	.25	.24	.23	.22	.21	.21	.19	.18	.17	.16	.15
36	27.92	.48	.44	.42	.40	38	.36	.34	.32	.30	.29	.27	.26	.25	.24	.23	.22	.22	.20	.19	.18	.17	.16
37	28.51	.49	.45	.43	.41	.39	.37	.35	.33	.31	.30	.28	.27	.26	.25	.24	.23	.23	.21	.20	.19	.18	.17
38	28.79	.50	.46	.44	.42	.40	.38	.36	.34	.32	.31	.29	.28	.27	.26	.25	.24	.24	.22	.21	.20	.19	.18
39	29.02	.50	.46	.44	.42	.40	.38	.36	.34	.32	.31	.29	.28	.27	.26	.25	.24	.24	.22	.21	.20	.19	.18
40	29.47	.51	.47	.45	.43	.41	.39	.37	.35	.33	.32	.30	.29	.28	.27	.26	.25	.25	.23	.22	.21	.20	.19
41	30.05	.52	.48	.46	.44	.42	.40	.38	.36	.34	.33	.31	.30	.29	.28	.27	.26	.26	.24	.23	.22	.21	.20
42	30.49	.53	.49	.47	.45	.43	.41	.39	.37	.35	.34	.32	.31	.30	.29	.28	.27	.27	.25	.24	.23	.22	.21
43	30.98	.54	.50	.48	.46	.44	.42	.40	.38	.36	.35	.33	.32	.31	.30	.29	.28	.28	.26	.25	.24	.23	.22
44	31.41	.55	.51	.49	.47	.45	.43	.41	.39	.37	.36	.34	.33	.32	.31	.30	.29	.29	.27	.26	.25	.24	.23
45	31.71	.56	.52	.50	.48	.46	.44	.42	.40	.38	.37	.35	.34	.33	.32	.31	.30	.30	.28	.27	.26	.25	.24
46	32.28	.57	.53	.51	.49	.47	.45	.43	.41	.39	.38	.36	.35	.34	.33	.32	.31	.31	.29	.28	.27	.26	.25
47	32.64	.57	.53	.51	.49	.47	.45	.43	.41	.39	.38	.36	.35	.34	.33	.32	.31	.31	.29	.28	.27	.96	.25
48	33.03	.58	.54	.52	.50	.48	.46	.44	.42	.40	.39	.37	.36	.35	.34	.33	.32	.32	.30	.29	.28	.27	.26
49	33.78	.60	.56	.54	.52	.50	.48	.46	.44	.42	.41	.39	.38	.37	.36	.35	.34	.34	.32	.31	.30	.29	.28

RAILWAY & LIGHT CO.

SERVICE UPON THE MILWAUKEE-RACINE-KENOSHA LINE.

South Milwaukee Rate of Fare Shall be as Provided for Suburban Service.

22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49
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.05	.05	.00	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
.05	.05	.05	.00	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
.05	.05	.05	.05	.00	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
.05	.05	.05	.05	.05	.00	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
.05	.05	.05	.05	.05	.05	.00	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
.06	.05	.05	.05	.05	.05	.05	.00	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
.07	.06	.05	.05	.05	.05	.05	.05	.00	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
.07	.06	.05	.05	.05	.05	.05	.05	.05	.00	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
.08	.07	.06	.05	.05	.05	.05	.05	.05	.05	.00	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
.13	.12	.11	.10	.09	.09	.08	.07	.06	.06	.05	.00	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
.14	.13	.12	.11	.10	.10	.09	.08	.07	.07	.06	.05	.00	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
.15	.14	.13	.12	.11	.11	.10	.09	.08	.08	.07	.05	.05	.00	...	...	...	...	...	...	...	...	...	...	...	...	...	...
.16	.15	.14	.13	.12	.12	.11	.10	.09	.09	.08	.05	.05	.05	.00	...	...	...	...	...	...	...	...	...	...	...	...	...
.17	.16	.15	.14	.13	.13	.12	.11	.10	.10	.09	.05	.05	.05	.05	.00	...	...	...	...	...	...	...	...	...	...	...	...
.18	.17	.16	.15	.14	.14	.13	.12	.11	.11	.10	.05	.05	.05	.95	.05	.00	...	...	...	...	...	...	...	...	...	...	...
.18	.17	.16	.15	.14	.14	.13	.12	.11	.11	.10	.05	.05	.05	.05	.05	.05	.00	...	...	...	...	...	...	...	...	...	...
.19	.18	.17	.16	.15	.16	.14	.13	.12	.12	.11	.06	.05	.05	.05	.05	.05	.05	.00	...	...	...	...	...	...	...	...	...
.20	.19	.18	.17	.16	.16	.15	.14	.13	.13	.12	.07	.06	.05	.05	.05	.05	.05	.05	.00	...	...	...	...	...	...	...	...
.21	.20	.19	.18	.17	.17	.16	.15	.14	.14	.13	.08	.07	.06	.05	.05	.05	.95	.05	.05	.00	...	...	...	...	...	...	...
.22	.21	.20	.19	.18	.18	.17	.16	.15	.15	.14	.09	.08	.07	.06	.05	.05	.05	.05	.05	.05	.00	...	...	...	...	...	...
.23	.22	.21	.20	.19	.19	.18	.17	.16	.16	.15	.10	.09	.08	.07	.06	.05	.05	.05	.05	.05	.05	.00	...	...	...	...	...
.24	.23	.22	.21	.20	.20	.19	.18	.17	.17	.16	.11	.10	.09	.08	.07	.06	.06	.05	.05	.05	.05	.05	.00	...	...	...	...
.25	.24	.23	.22	.21	.21	.20	.19	.18	.18	.17	.12	.11	.10	.09	.08	.07	.07	.06	.05	.05	.05	.05	.05	.00	...	...	...
.25	.24	.23	.22	.21	.21	.20	.19	.18	.18	.17	.12	.11	.10	.09	.08	.07	.07	.06	.05	.05	.05	.05	.05	.05	.00	...	...
.26	.25	.24	.23	.22	.22	.21	.20	.19	.19	.18	.13	.12	.11	.10	.09	.08	.08	.07	.06	.05	.05	.05	.05	.05	.05	.00	...
.28	.27	.26	.25	.24	.24	.23	.22	.21	.21	.20	.15	.14	.13	.12	.11	.10	.10	.09	.08	.07	.06	.05	.05	.05	.05	.05	.00

d. Children under three years of age shall be carried free. Chilren between the ages of three and ten years, inclusive, shall be carried for one-half the full fare.

e. Every interurban fare from or to Milwaukee, Racine, Kenosha, Burlington, Waukesha, Oconomowoc and Watertown shall entitle the passenger to the usual transfer privilege within the single fare limits of such cities where such privilege exists.

III. Ticket Fares.

The sale of all commutation and reduced rate round trip tickets which may now be in force shall be abandoned. Such tickets shall be honored, when presented, for thirty days from the date of the adoption of this order, after which they shall be void upon the cars. All such tickets or portions thereof as shall be unused at the expiration of the thirty days shall be redeemed on demand at a pro-rata portion of the cost.

The Milwaukee Electric Railway and Light Company and the Milwaukee Light, Heat and Traction Company shall sell through their conductors on cars operating between Milwaukee and South Milwaukee tickets in packages of twenty for $2.50, and each ticket shall entitle the purchaser to one continuous ride between any point within the single fare limits of Milwaukee and Marquette Boulevard in the city of South Milwaukee with privilege of transfers within this distance. These tickets shall be non-transferable and shall be limited to sixty days from date of sale. Refunds for unused tickets shall be made to the extent of the difference between the full purchase price and the sum of the maximum cash fares for which tickets were substituted. Said tickets shall be sold for one year after date of installation.

The respondent companies are further ordered to sell through their conductors on cars in "through interurban passenger service" and at all their ticket offices non-transferable 300 mile books at 1.8 cts. per mile, or $5.40 per book, good for the payment of any interurban or suburban fare, provided, however, that the minimum fare thus payable shall amount to a 5 mile "tear". The number of miles torn for a ride shall be the number obtained by dividing the cash fares herein authorized by two. When the cash fare is odd the next highest even fare shall be the dividend. Refunds for unused coupons shall be made to the extent of the difference between the full purchase

price and the sum of the cash fares for which coupons were substituted.

IV. Miscellaneous Provisions.

It is Further Ordered, That all complaints and petitions herein named, insofar as they as they are not satisfied or granted herein, and insofar only as they relate to rates of fare for suburban and interurban passenger service, be and they hereby are dismissed.

Thirty days is deemed sufficient time within which the said companies may adopt the provisions of this order and file their amended rate schedules.

The order shall in no wise affect or alter the rates now in effect and being charged by the companies herein named for private, funeral, or chartered car service, or the present reduced "party rates" for passenger service, or rates for any other service than the carrying of passengers.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF THE REFUSAL OF SERVICE BY THE MADISON GAS AND ELECTRIC COMPANY TO F. M. WYLIE.

Submitted Dec. 16, 1913. Decided Jan. 2, 1914.

The Commission, on its own motion, investigated the refusal of the Madison G. & El. Co. to furnish gas and electric service to F. M. Wylie. Mr. Wylie was in arrears on certain bills rendered him during the course of several years for past service, part of the amount of the bills being in dispute, and the company, upon his removal to a new place of residence, refused to furnish him service unless he would pay this past indebtedness. Mr. Wylie admits being in arrears 52 cts. for service rendered him since the making by him of a special deposit of $5.00, required in accordance with a rule of the company as security for the payment of bills due the company, prior to receiving service at his last place of residence. The company contends that the deposit may be applied to the payment not only of the 52 cts. but also of indebtedness incurred prior to the making of the deposit, and that Mr. Wylie may be required to liquidate in full any remaining indebtedness and to make a new deposit before the company can be required to serve him at his new place of residence.

When a consumer moves from one place of residence to another he may doubtless be treated as a new consumer and be obliged to comply anew with the rules and regulations then in effect before receiving service at his new place of residence. The acceptance of the application for service at the new place of residence then constitutes a new and independent contract distinct from the contract for service at the former place of residence.

Held: 1. A public utility may refuse to furnish service unless the charges for such service are prepaid, or a sum of money sufficient to secure the payment for services rendered during any future interval for which credit is extended, or a bond to secure such payment is deposited with the utility, but the utility may not condition the furnishing of service upon the liquidation of indebtedness to the utility for past service.

2. A public utility which requires a deposit of money to secure the payment of bills for future service before rendering service to an applicant cannot apply the deposit to the payment of indebtedness previously incurred by the applicant, but must look for its remedies to the courts of law.

3. The applicant's contract with the utility in the instant case permits the application of his deposit only to the payment of indebtedness incurred by him after the contract became effective.

It is ordered that upon payment by F. M. Wylie of all sums due to the Madison G. & El. Co. for gas furnished him at his last place of residence the company accept his application and serve him with gas and electric current at his present place of residence

and retain the $5.00 now held by it as security for the payment of bills for such service when they become due, according to the published rules and regulations of the company.

F. M. Wylie, a resident of the city of Madison, filed a complaint with the Commission setting forth that he had made application to the Madison Gas and Electric Company for gas and electric service and had complied with all the rules and regulations of the company, but that the company refused to furnish him service. The Commission deemed the complaint of sufficient general importance to order an investigation upon its own motion.

The hearing was held on December 16, 1913. *F. M. Wylie* appeared in his own behalf and the Madison Gas and Electric Company appeared by *Olin, Butler & Curkeet,* its attorneys.

It appears that the complainant during the past seven years has at different times and at different places of residence in the city of Madison, been a patron of the Madison Gas and Electric Company, hereinafter referred to as the company, and that when giving up his dwelling at any particular place he has neglected to pay for the service rendered during the last month of his residence at such place. The company claims that he is now in arrears for electricity for the month of March, 1907, at 309 State street, $2.17; for gas for the month of April, 1907, at 543 State street, $3.94; for gas for the month of November, 1910, at 644 East Johnson street, 50 cts.; for gas for the month of September, 1913, at 1214 Jenifer street, 52 cts.; also for three hours' labor 80 cts. The total amount of arrearage thus claimed is $6.93. A part of this amount is in dispute.

The complainant is now a tenant residing in an apartment building at 114 North Henry street, and has been receiving service from the company through and upon the responsibility of his landlord. On August 30, 1913, prior to moving from his late residence on Jenifer street, he filed a written application with the company asking that service be furnished him at his intended abode on North Henry street. On November 15, 1912, he applied to the company for service to be rendered at his house on Jenifer street, and deposited with the company, pursuant to its published rule the sum of $5.00 as a special deposit to secure the payment of all bills which might become due to the company. Since this application was made it is admitted that 52 cts. has not been paid the company for services

rendered at the premises on Jenifer street during the month of September, 1913. When he requested the company to furnish him service at his present residence, the company refused to do so unless he would pay his past indebtedness incurred at other places where he had been served. The ground of its refusal is stated by its counsel as follows:

"The application was made by Mr. Wylie for gas and electric service at a new place of residence from where he had been furnished service before that; and service was refused because he was in arrears on service he had obtained at other residences at which he had been living in the past two or three years. That was the sole ground for refusing the service."

At the time of making the deposit the company gave the complainant a written receipt therefor, the material parts of which read:

"Received of F. M. Wylie $5.00, being a special deposit as security for the payment of all bills which are, or may at any time become due to the Madison Gas and Electric Company from the above named party. This deposit is not to be applied to the payment of the above named bills except in case of default of payment as provided in the rules and regulations of the Madison Gas and Electric Company. The above amount of deposit is to be refunded with interest at the rate of 4% per annum on final settlement or termination of the contract between the parties hereto upon the surrender of this receipt. It is further understood and agreed that the amount of this deposit may be applied by this company as far as needed to the payment of any indebtedness to it at the final settlement without the presentation and surrender of this receipt."

The rule of the company upon the subject is as follows:

"Gas and electric meters are set on written application without charge, providing the applicant's credit is good. If his credit is questionable, or the applicant unknown, a deposit sufficient to cover the payment of one month's bill is required."

The main question arising upon the conceded facts of this case is whether the company may refuse to grant service at any premises to an applicant who has become in arrears for service at other places, until such arrearage is paid. The company takes the position that it may apply the deposit made under the rule to any past indebtedness of the applicant, wherever incurred when he ceases to be a consumer at any particular premise, and may require him to liquidate in full such indebted-

ness, if the deposit is not sufficient for such purpose, and make a new deposit when he applies for service at a new place of residence, before it can be required to serve him. Doubtless when one moves from one dwelling to another he may be treated as a new consumer when applying for service at such other dwelling and may be obliged to comply anew with the rules and regulations then in effect. The acceptance of such application, upon compliance with the regulations, constitutes a new and independent contract. In the instant case the company evidently regarded the application of August 30, 1913, as a proposition for a new contract, for at that time it was serving the complainant at his residence on Jenifer street and continued to serve him there until in September, 1913, when he moved to his present dwelling. It would not accept the new application on the terms on which it was then serving him, but conditioned its acceptance upon the payment in full of all past indebtedness incurred on premises previously occupied by him.

The authorities are not in accord as to the obligation of the company to serve an applicant who is in arrears at other premises, although he tenders ready money for present service, but the best considered cases take the view that it is inconsistent with public duty to refuse service under such circumstances. The authorities holding that one who is owing for past service cannot insist on future service until default has been made good, seem to consider the matter from the standpoint of the convenience to the company in making its collections. They extend the right of the private trader to the one engaged in a public calling, notwithstanding the apparent conflict between the right of the former and the public obligation of the latter. But in opposition to this doctrine it has been said:

"To show that the policy of requiring payment of arrearages is a helpful device to the company in making its collections is not enough, if the method used is inconsistent with public duty. As to any hardship upon the companies in prohibiting them from collecting back charges in this way, it is enough to say that they need not have have given any credit at the outset. As one in public service may always demand prepayment, having given credit the company must be content, as other creditors must be, to collect its back bills by legal means. To attempt to make such collections by refusing present service for ready money would seem to be in the face of the public duty." 1 Wyman on Public Service Corporations, sec. 451.

The company owes a duty, not only to itself, but to its patrons as a whole, to collect promptly all indebtedness due for services rendered, for

"In conserving the revenues of such corporation and preventing reductions in the same from loss of accounts, the public is as much interested as the directors and stockholders of the company, for any material reduction in revenues, however caused, generally results, and often necessarily so, in increasing the cost of the service to the patron and diminishing the return to the stockholder. The burden thus occasioned is invariably cast upon and must be borne by both the public and the shareholders, in varying proportions, depending upon the circumstances for each particular case." *Berend v. Wis. Tel. Co.* 1909, 4 W. R. C. R. 150, 155–156.

Because of such duty a company is permitted to demand prepayment of present service where the charge may be determined in advance; or in case of metered service may require a deposit of a sum of money sufficient to secure payment for the service rendered during stated intervals for which credit is extended, or may require a bond to secure such payment. Failing to establish or to enforce a rule to secure the prompt collection of bills when due, the company stands in the position of any other creditor and must resort to the courts to compel payment of such indebtedness. It may refuse to furnish service in the future unless prepayment is made, but because of its public duty it can not condition such service upon the liquidation of past charges.

A further question is presented by the record which must be disposed of in order to settle the controversy between the parties. This arises out of the contention of the company that it may now apply the special deposit to all past defaults of complainant at premises other than those at which he was last served. If this contention is sound it would be necessary for the complainant to make another deposit before his right to service at his present dwelling should exist. It is conceded that the deposit has been impaired to the amount of 52 cts. which is the delinquency for services rendered under the contract to secure the performance of which on his part the deposit was made. Assuming then that he should tender payment of such amount, the question is would he be entitled to a return of the deposit, or, which would be the equivalent in effect, could he direct that such deposit be held by the company under its rule as security for bills that

might become due and unpaid on the proposed contract which was rejected? In determining the legal relation existing between the parties, it is necessary to consider the application, the rule, and the receipt. The application contains a request that service be rendered upon certain premises and an agreement to pay for the service and to abide by the rules and regulations of the company. The rule here involved permits the company to demand a deposit of sufficient amount to secure the payment of one month's bills, which in the instant case has been fixed by the company at $5.00. The receipt, although broad in its language, must be treated in connection with the application and rule and as therewith forming the contract between the parties. The terms of the receipt, thus considered, show clearly that the deposit is a security for the payment of all bills which are or may at any time become due under the particular contract. This is made very clear when we observe the terms of the receipt, which provided that the deposit "is to be refunded with interest at the rate of 4 per cent per annum on final settlement or termination of the contract between the parties hereto upon the surrender of this receipt", and that the same "may be applied by the company as far as needed to the payment of any indebtedness due it at the time of final settlement without the presentation and surrender of the receipt." The "payment of any indebtedness" evidently means any indebtedness under the contract. One clause of the receipt thus provides for a return of the deposit with interest on final settlement or termination of the contract, providing all bills due under the contract have been paid, and the other, that when bills under the contract have not been paid, the company may then on the final settlement apply the deposit to the payment of such indebtedness. No other interpretation of the language of the receipt would be permissible under the circumstances. The purpose of the deposit under the rule is to secure prompt payment of current bills when due, and the rule cannot be extended beyond its terms so as to permit of the application of the security to a purpose not therein expressed, otherwise the rule might in certain cases not only defeat itself but allow the company to do by indirection what it would be unlawful to do directly.

Unfortunate as the company may find itself in this case because of its inability to collect what may be a just debt without resorting to legal means, it seems to us that in the absence of

any statutory authority to that effect, service cannot be withheld from one who is willing to comply with the rules and regulations requiring the furnishing of security for the payment of current bills when due, although he may be owing the company for past service at the time. While this rule may seem to work a hardship upon the company at times it should have the effect of greater scrutiny of credits on the part of the company in the future and a more extensive application of the rule relating to deposits.

It follows from what has been said that if the complainant pays the amount due for service rendered on the premises on Jenifer street, he will be entitled to service at his present place of residence, and the deposit now in the hands of the company may be retained by it as security under its rule for the payment of any service it may render him there.

NOW, THEREFORE, IT IS ORDERED, That, upon payment by E. M. Wylie of all sums due to the Madison Gas & Electric Company for gas furnished him at 1214 Jenifer street in the city of Madison, the said company accept his application and serve him with gas and electric current at his residence, 114 North Henry street, in said city, and retain the $5.00 now held by it as security for the payment of bills for such service when the same become due, according to its published rules and regulations.

DAVID GANTENBEIN
vs.
CHICAGO, BURLINGTON AND QUINCY RAILROAD COMPANY.

Submitted Sept. 23, 1913. Decided Jan. 3, 1914.

The petitioner alleges that the passenger train service rendered by the respondent at the village of Diamond Bluff is inadequate and asks that the respondent be required to stop its trains No. 51 or No. 47, northbound, and No. 48 or No. 58, southbound, at this point.

Held: For reasons discussed in *Kemp v. C. B. & Q. R. Co.* 1909, 3 W. R. C. R. 350, the present service cannot be condemned as inadequate. The petition is dismissed.

The petitioner is a lumber merchant and fish dealer at the village of Diamond Bluff, Wis. He alleges that the said village is situated upon the line of the respondent railroad company; that five northbound and six southbound passenger trains pass through said village daily; that three northbound trains, known as Nos. 91, 53 and 51, and two southbound trains, known as Nos. 92 and 54, stop at said village, train 51 stopping only to leave revenue passengers from Rachelle, Ill., or stations east thereof, or from Clinton, Iowa, or stations south thereof; that the service rendered by the stopping of only the trains above mentioned at Diamond Bluff is inadequate, especially in view of the fact that the two southbound trains are scheduled to reach said village less than an hour apart, and that one northbound train, namely No. 91, is an accomodation train and operates upon a schedule too slow for adequate passenger service; that in order to render the passenger train service of said respondent company reasonably adequate it will be necessary that said company stop its trains northbound No. 51 or No. 47 and southbound No. 48 or No. 58.

No answer was filed by the railway company.

The matter came on for hearing on September 23, 1913. The petitioner appeared in person and the railway company by *Woodward & Lees,* its attorneys.

Diamond Bluff is a village of less than 200 population. The

facts presented at the hearing are similar to those considered in *Kemp v. C. B. & Q. R. Co.* 1909, 3 W. R. C. R. 350. The matter was so fully considered in that case that it becomes unnecessary to again comment upon the inconvenience suffered by certain residents of Diamond Bluff because of their inability to travel upon other trains than those stopping at Diamond Bluff in going north and south. We would not be justified under the facts in this case in condemning the present service as inadequate. Furthermore, the legislature has established a minimum of service at all stations having a population of 200 or more. Although Diamond Bluff has less than this population, it nevertheless has been given service in excess of the minimum of the statute. Under the circumstances the petition will be dismissed.

NOW, THEREFORE, IT IS ORDERED, That the petition be and the same is hereby dismissed.

WAUSAU ADVANCEMENT ASSOCIATION

vs.

CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Submitted July 17, 1913. Decided Jan. 3, 1914.

The petitioner alleges that the respondent's rates for the transportation of beer in carloads from Wausau to Tomahawk and Minocqua are unreasonable and unjustly discriminatory when compared with rates enjoyed by Milwaukee competitors of Wausau brewers.

The objection made by the respondent to a reduction in the rates complained of on the ground that a reduction in these rates would necessitate reductions in rates to intermediate points cannot be advanced to sustain rates which are unreasonable in themselves. *Wis. Box Co. et al. v. C. M. & St. P. R. Co.* 1909, 3 W. R. C. R. 605, 619.

Mere rate comparisons alone do not always afford a safe basis for rate making. Consideration must also be given to the cost of service and to established competitive conditions.

Held: The respondent's present rates on beer in carloads from Wausau to Tomahawk and Minocqua are unreasonably high, whether considered in relation to the cost of service or in comparison with similar rates elsewhere. The respondent is ordered to put in effect a rate of 9 cts. per 100 lb. for shipments from Wausau to Tomahawk and 11 cts. per 100 lb. for shipments from Wausau to Minocqua.

The petitioner in this case, the Wausau Advancement Association, is a voluntary association of corporations and citizens of the city of Wausau, Wis., organized to promote the business of that city. On behalf of one of its members, the Ruder Brewing Company, the above named association complains that the respondent is charging unjust and unreasonable rates for the transportation of beer in carloads from Wausau to Tomahawk and Minocqua, Wis., when compared with the rates charged on the same traffic from other points in Wisconsin to the same destinations. By reason of such unjust and unreasonable charges, the petitioner alleges that its carload beer traffic is subjected to unjust discrimination and to an undue and unreasonable disadvantage, thereby greatly handicapping its own producers in competing with similar industries at other points in this state in the sale of its product and in meeting competitors' prices in

the two towns mentioned above. Wherefore, the petitioner prays that the respondent be required to answer the complaints alleged and that, after due hearing and investigation, the Commission make such orders as it may deem necessary and just in the premises.

The respondent in its answer, after admitting the usual formal allegations of the complaint, denies specifically that it is exacting unjust and unreasonable charges for the transportation of beer in carloads from Wausau to Tomahawk and Minocqua, or that it is subjecting complainant to unjust discrimination and asks that the complaint be dismissed.

The hearing was held in the school board room of the city hall at Milwaukee on July 17, 1913. *A. E. Solie* appeared for the petitioner and *J. M. Davis* for the respondent.

The testimony developed the fact that in marketing its product at Tomahawk and Minocqua the Ruder Brewing Company meets the competition of the Miller Brewing Company of Milwaukee and, in the case of Minocqua, the competition of the Gund Brewing Company of La Crosse in addition. It appeared further that of all the carload shipments of beer into Tomahawk, about 60 per cent are derived from the Wausau Brewing Company, while in the case of Minocqua about 55 per cent of the carload shipments of beer are furnished by that company. There was some evidence though not very clear or definite that the commodity may be supplied at Minocqua to some extent by brewers shipping over the line of the Chicago & North Western to Woodruff Junction, a distance of two miles from Minocqua. On the whole it would seem, however, that these two towns are regarded as the natural market for the surplus product of the Ruder Brewing Company of Wausau.

The petitioner introduced considerable testimony to show that on the materials required in the production of beer, the Ruder Brewing Company was paying rates considerably in excess of the rates paid by its competitors; that the chief source of malt supply is Lomira and towns in that vicinity, the carload rate upon malt being 16 cts. per 100 lb. to Wausau, while to Milwaukee it is only 7 cts. The Ruder Brewing Company derives its coal chiefly from Milwaukee and Sheboygan, the carload rate being 5 cts. The chief market for the various other materials required is Milwaukee, and upon these materials the com-

pany pays rates which materially increase its cost of production over that of its competitors.

By means of exhibits, portions of which are shown later, comparing existing rates on beer in carloads between Milwaukee and Tomahawk and Minocqua, between Wausau and Tomahawk and Minocqua and between various other points in Wisconsin on the Chicago, Milwaukee & St. Paul railroad, the petitioner attempted to prove that the charges were discriminatory against Wausau shippers. The rate per ton-mile was computed in each case and seemed to lend color to the contention of the petitioner that the rates from Wausau to Tomahawk and Minocqua were unusually high. The petitioner undertook also to test the reasonableness of the rates complained of by making comparison with the rate per ton-mile on the Chicago & North Western railroad for beer moving between Milwaukee and points to the north on Lake Michigan.

The respondent, on the other hand, denied the validity of such rate comparisons as proof of the discriminatory nature of the rates on the ground that Wausau brewers are not actively competing in all the markets to which rate comparisons have been made. Further, the respondent contended that inasmuch as all the rates under consideration are class rates and no commodity rates enter into competition, all traffic is moving upon the same basis. In answer to the petitioner's claim that Wausau brewers must buy their raw materials in distant markets, the respondent called the petitioner's attention to the fact that they could procure their barley for malting at Minneapolis and bring it into Wausau at the same price per bushel as paid by their Milwaukee competitors. The final objection raised by the respondents to a reduction in the carload rate on beer from Wausau to Tomahawk and Minocqua is that this reduction would, in effect, lower the rate to thirteen intermediate points in the case of Tomahawk and to seven in the case of Minocqua. It appears, however, that this is an overestimate of the result, inasmuch as Merrill is the only town that has any very considerable beer traffic.

The issue in this case, it would seem, is the absolute reasonableness of the rates from Wausau to Tomahawk and Minocqua which at present are 11 cts. and 13 cts. respectively, for distances of 41.6 and 72.8 miles. The petitioner contends that the reasonable rate should be fixed at 6 cts. per 100 lb. in the case

of a haul from Wausau to Tomahawk and 10 cts. in the case of a haul from Wausau to Minocqua.

The petitioner bases his case upon the rate comparisons referred to above. This Commission, however, has repeatedly declared that the comparative basis alone is not always a safe basis for rate making, that when the absolute reasonableness of a rate is questioned, the best answer is usually found in the cost of the service, including operating expenses, allowance for depreciation and return on investment. In addition to these general considerations of cost, a rate to be reasonable should take into account any special conditions which may operate to either increase or decrease the cost of handling above the average of all traffic, such as the amount of terminal handling required, the kind of equipment required, the regularity and amount of such traffic, and many other considerations. After the costs enumerated above have been given due weight, one other matter enters into the question of reasonableness of rates, namely, competitive conditions. Not infrequently the regular rate of transportation would entirely prevent commodities from moving and it may often be to the best interests of the carriers and the community alike that these conditions be taken into account in the final rate adjustment.

In the light of these general principles we have examined into the reasonableness of the particular rates complained of in this case. Upon investigation it appears that the cost of moving freight and handling it at terminals has increased. This fact is of considerable importance in this case where one of the parties is relying upon past cost estimates. Special reference was made by the petitioner to a decision of this Commission in the case of the *Milwaukee-Waukesha Brewing Co. v. C. & N. W. R. Co.*, decided Aug. 26, 1910 (5 W. R. C. R. 546). In view of the increase in the cost of handling traffic such figures, if given any weight at all, should be used as comparative data only, and like all evidence of that character they should be applied with caution.

The following table was substituted by the petitioner to show the rates on beer in carloads, the distances between points named, and the rate per ton per mile:

SCHEDULE OF RATES ON BEER IN CARLOADS.

From	To	Distance, miles.	Rate per cwt., cents.	Rate per ton per mile, mills.
Milwaukee	Wausau	226.6	16	14.09
"	Tomahawk	268.2	18	13.43
"	Minocqua	299.2	18	12.04
"	Eau Claire	302.7	17	11.23
"	Woodruff	249.5	18	14.43
Wausau	Tomahawk	41.6	11	52.88
"	Minocqua	72.8	13	35.71

The facts contained in this table have not been controverted by the respondent and on the whole they appear to approximately reflect the general rate situation at the points involved. It should be observed that the rate per ton per mile for the short hauls from Wausau to Tomahawk and Minocqua is about four times as high as the rate per ton-mile from Milwaukee to the same points. In general it is true and in line with correct principles of rate making, that the rate per ton-mile for short hauls is higher than the rate for long hauls. The reason for this is to be found in the fact that, terminal expenses remaining constant, the total cost in the case of short hauls must be borne by a smaller number of ton-miles, thus increasing the cost per unit. It should be remembered, too, that upon long haul traffic moving between points where competition is intense, rates have been reduced to meet these conditions in accordance with one of the principles referred to above. Rate schedules, therefore, frequently show a considerable variation from the normal schedule in which the distance principle is applied with approximate mathematical exactness.

In the case of the rates under consideration, it does not appear that this difficulty exists. There is some ground, therefore, for questioning the present adjustment of the rate schedule as to its reasonableness in the case of the short hauls from Wausau to Tomahawk and Minocqua.

No evidence was submitted as to the actual weight of beer per car. The minimum weight for straight carloads in wood is 20,000 lb. and for other shipments 26,000 lb. From evidence in the hands of the Commission, however, the actual loading seems to be considerably above the minimum, averaging about 36,000 lb. The value of a carload of beer, including the value of the

container, is somewhere in the neighborhood of $700 or $800. Under ordinary conditions, therefore, beer is a commodity which can bear rates considerably above the average of all traffic.

Some evidence was introduced by the petitioner tending to show that the amount of terminal handling required in the case of shipments to Tomahawk was very small. The respondent, however, claimed that the matter was of small importance, so far as the minimum service required in spotting the cars at the warehouse for unloading is concerned, and we are inclined to agree with him. In addition to testing the reasonableness of the rates from Wausau to Minocqua and Tomahawk, we have also examined the rates from Milwaukee to these points, particularly because the suggestion is contained in the complaint that they are unreasonably low. We are not prepared, however, to say whether this is the case. The rates from Wausau to Tomahawk and Minocqua, however, are unreasonably high and should be reduced.

That a reduction in the rates from Wausau to Tomahawk and Minocqua would have the effect of lowering the rates to intermediate points, as argued by the respondent, does not constitute a valid objection. As we have already observed elsewhere in this opinion, the testimony seemed to indicate that Merrill was the only town with any considerable beer traffic. The distance from Wausau to Merrill being 19.3 miles, the fifth class rate would be 7 cts. per 100 lb. and therefore lower than the rate ordered herein. Accordingly, in the case of Merrill it would not seem that this objection of the respondent will hold. But granting that a reduction might have the effect indicated by respondents, we hold, nevertheless, that such circumstances cannot be relied upon to sustain rate arrangements unreasonable in themselves. In the case of the *Wisconsin Box Co. et al. v. C. M. & St. P. R. Co. et al.* 1909, 3 W. R. C. R. 605, 619, this Commission, in commenting upon the general effect a lowering of the rate at one point would have at other points where industries of the same kind are located, says:

"In considering this matter, however, it appears to us that in this particular case the conditions are such that this fact alone should not be permitted to prevent the lowering of the rates complained of, if such action is warranted on such other grounds as would otherwise be accepted as good reasons for the reductions. The opposite course would simply mean that no change

in these rates, no matter how necessary, could be made except upon investigations that are comprehensive enough to cover all rates directly or indirectly affected by such changes. If this view was consistently taken in all cases of this kind, regulation might be found to be so inelastic as to subserve no practical purpose, and so out of line with public policy as to be directly harmful."

From the facts in this case we have reached the conclusion that the present rates on beer in carloads from Wausau to Tomahawk and Minocqua over the line of the Chicago, Milwaukee & St. Paul Railway Company are unreasonably high, from the point of view of the cost of the service as well as in comparison with similar rates elsewhere; that a reasonable rate for such traffic, sufficient to pay all the operating costs and to yield a substantial return upon the investment, should not exceed 9 cts. per 100 lb. in the case of a haul from Wausau to Tomahawk and 11 cts. in the case of a haul from Wausau to Minocqua.

IT IS THEREFORE ORDERED, That the respondent, the Chicago, Milwaukee & St. Paul Railway Company, discontinue its present rates on beer in carloads from Wausau to Tomahawk and Minocqua and substitute therefor a rate of 9 cts. per 100 lb. for shipments from Wausau to Tomahawk and 11 cts. for shipments from Wausau to Minocqua.

WAUKESHA LIME AND STONE COMPANY
vs.
CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY, MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY.

Submitted May 27, 1913. Decided Jan. 3, 1914.

The complainant alleges that excessive and unreasonable charges were exacted from it for the movement of 31 cars from one of its plants located on the M. St. P. & S. S. M. Ry. in Waukesha to another plant located on the C. M. & St. P. Ry. in Waukesha. Only one of the 31 cars moved less than a year prior to the filing of the complaint, which was filed before ch. 66, laws of 1913, increasing the time in which such complaints may be filed from one year to two years, went into effect and therefore the charge on this car only can be considered. The charge in question was $7, made up of $5 for the services of the M. St. P. & S. S. M. Ry. Co. and $2 for the services of the C. M. & St. P. Ry. Co. The latter rate was according to tariff, but there is no tariff authority for the $5 charge, which should have been $4.

The practice followed for many years by railroad companies in making switching movements for each other at rates less than those charged the public for similar services is likely to result in the imposition of unjust burdens on shippers in order to recoup losses thus sustained. Inasmuch, however, as the practice in question is one of long standing and as business has adjusted itself to it, such changes as are necessary in the interests of justice between the parties concerned should be made slowly.

Held: The charge exacted was excessive. Six dollars would have been a reasonable charge and refund is ordered on that basis.

The complainant, the Waukesha Lime and Stone Company, deals as producer and wholesaler in stone, gravel, sand and lime. The general offices of this company are in Racine, and certain of its plants are located at Waukesha. This complaint alleges excessive and unreasonable charges on thirty-one cars moving from one of these plants, located on the tracks of the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, to another on the tracks of the Chicago, Milwaukee & St. Paul Railway Company. Only one car of the thirty-one, the charges on which are complained of, moved less than a year prior to the date of the filing of this complaint, which was filed before ch. 66, laws of 1913, increasing the time in which such complaints may be filed from one year to two years, went into effect, hence that one alone, C. & N. W. 76379, can be considered.

A hearing was held at Milwaukee, May 27, 1913, at which the petitioner and the several respondents were represented.

The agent of the "Soo" line charged $7 for the movement under consideration, quoting a rate of $5 for the services of his line and $2 for the services of the delivering carrier. Tariff authority for the $2 charge can be found, but it appears that the $5 rate was without authority.

"Soo" line traiff No. 10950, with supplements thereto, was in effect and quoted a general rate between industries on the "Soo" line at Waukesha and the Chicago, Milwaukee & St. Paul Railway, of $4 per car, with an exception in the case of stone on which the rate of $2 would apply. Since then sand and gravel have been included in this rate of $2. The contention of the carrier that this rate of $2 per car was intended to apply only on those cars on which there was a line haul is not supported by the tariff itself. It is, however, plain that this rate has been generally regarded as a reciprocal rate similar to that quoted by the Chicago, Milwaukee & St. Paul Railway Company for handling carload traffic between industries on its tracks in Waukesha and its junction with the "Soo" line.

In case the agent of the "Soo" line believed that the rate of $2 per car should not apply on the movements here under consideration, he should have applied the distance tariff, and let the shipper seek reparation in the usual manner.

The correct charge as determined from tariffs on file with the Commission should have been $4, made up of a $2 charge by each of the roads involved. This charge of $2 is in each case the result of the application of a reciprocal rate and very plainly it was never intended that the charges on any car should be found by adding two reciprocal rates.

The charge of $2 by the Chicago, Milwaukee & St. Paul Railway Company for delivery may be entirely reasonable, but it must not be inferred therefrom that a charge of $2 by the "Soo" line for the movement of the car from point of loading to the point of interchange between the roads is likewise reasonable, even if the distance may be no greater in the case of the second movement than in that of the first.

It has been the custom for many years for railroads to make certain switching movements for each other at rates somewhat less than those charged the general public for similar services.

These are generally referred to as reciprocal rates. When the earnings on a car from its line movement are above a certain minimum the carrier having the line haul will absorb all or a part of the switching charge. This absorption rests on the belief that the traffic is of sufficient profit to make it good business for the carrier to encourage its movement in this way.

It is not entirely plain why as reciprocal rate should differ from the rate to the individual shipper for the same service. If it is argued that the two carriers are sometimes in one relation and sometimes the other as debtor and creditor, and that in the long run the cancellation of debits and credits is practically complete, it must then be admitted that the amount of the interchange rate is immaterial insofar as the roads are concerned. However, it will be apparent that the relation between the shipper on one hand and the carriers on the other is always the same, the shipper being the debtor. If the rate under discussion is so low as to be unremunerative the carrier must recoup its losses elsewhere, which is a form of discrimination, while, on the other hand, if the rate is too high, the discrimination is more obvious but no more real. In those cases where, as between two carriers, there is such a general trend of traffic as renders the debtor and creditor positions of the carriers constant, it is evident that with too low a rate the creditor road is harmed, and with too high a rate the debtor is harmed. In either case, the attempt of the road to recoup elsewhere puts a burden where it does not justly belong. Further, the situation of the shippers using the rate is not different in this case from their situation in the previous one where the railroads were able to balance their switching obligations.

It seems, then, that a reciprocal rate, or the charge as between carriers for switching service, should not differ from that rate quoted the individual shipper for the same service, and that either rate should be sufficient to pay the costs incurred and contribute in some part, large or small, depending upon other conditions, to the return of the carrier upon its investment. It is no doubt true that any general change in the basis of reciprocal rates would necessitate an adjustment of the rules covering absorption.

While the foregoing statements are manifestly true, it must not be forgotten that the present system of rates is of long

standing and that business has adjusted itself to these rates. It follows, then, that what changes must be made in the interests of justice between all parties concerned, must be made slowly and with due regard to relationships and values created in the past by the rates which in themselves contain the elements of discrimination.

In the instant case a study of the situation indicates that the charge of $7 per car for the movement from an industry on the "Soo" line to an industry on the "St. Paul" line, both industries being within the city of Waukesha, is somewhat excessive and this Commission finds, in the light of the cost of service and the commercial and industrial conditions which obtain at Waukesha, that a total charge of $6 per car is reasonable under the circumstances. Of this $6 the Chicago, Milwaukee & St. Paul Railway Company is entitled to $2.

NOW, THEREFORE, IT IS ORDERED, That the respondent, the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, be and hereby is authorized to refund and repay to the complainant, the Waukesha Lime and Stone Company, the sum of $1, this amount being the difference between the actual charge on C. & N. W. 76379, moving May 22, 1912, between industries in the city of Waukesha, and the reasonable charge for this service.

CURTISS AND WITHEE TELEPHONE COMPANY
vs.
OWEN TELEPHONE COMPANY.

Submitted Oct. 21, 1913. Decided Jan. 5, 1914.

The petitioner asks for an order requiring the respondent to restore the physical connection and service formerly maintained between the two companies in the village of Owen. The connection was severed by the respondent upon the refusal of the petitioner to accede to new terms which the respondent sought to impose for its services to the petitioner.

The respondent is ordered to restore the connection between its lines and the line or lines of the petitioner within ten days of date. Service is to be furnished upon the terms which prevailed prior to the disconnection of the lines until such time as a supplementary order, finally fixing terms for connection, is issued.

The petition in this matter was filed September 2, 1913. The petition sets forth that the petitioner is supplying telephone service in and around the village of Curtiss, and that the Owen Telephone Company is engaged in the telephone business at Owen; that a number of years ago petitioner had telephone lines extended into the village of Owen; that when the Owen Telephone Company was incorporated and began to furnish local service and connection with long distance lines, the Curtiss & Withee Telephone Company and the Owen Telephone Company entered into an agreement, the terms of which are set forth in some detail in the petition and in other portions of these proceedings, but of which the essential parts, for the purpose of this case were: that the Owen Telephone Company should take over all the property of petitioner within the village of Owen, that the Owen Telephone Company should furnish connection to petitioner by means of which petitioner's patrons could reach any telephone upon the Owen Telephone Company's system and also obtain long distance service; that petitioner's patrons should choose one of two methods of paying for this service, these methods being a flat rate of 25 cts. per month or a message rate of 10 cts. per message, aside from regular long distance tolls. In the case of subscribers who chose to pay 25 cts. per month, the Owen Telephone Company received the entire amount, but of the 10 ct. message fees the Owen Telephone Company paid two-thirds to petitioner. For long distance service peti-

tioner received nothing for outgoing messages, but for the use of its lines for incoming messages, it received 6⅔ cts. per message.

The petition also shows that on or about July 16, 1913, the Owen Telephone Company notified the petitioner that thereafter a charge of 25 cts. per month for switching service would be demanded by it for each of petitioner's subscribers and that the message rate would be discontinued, that if this demand were not complied with within thirty days, the connections between the lines of the two companies would be cut; that petitioner refused to comply with this demand and that the Owen Telephone Company, on or about August 18, 1913, severed the connection.

Petitioner therefore asks for an order requiring the Owen Telephone Company to restore the connection and service between the lines of the parties to this case, and fixing the terms for such connection and service.

Hearing was held at Madison, October 21, 1913. Appearances were: for the Curtiss & Withee Telephone Company, *A. J. Dillett;* for the Owen Telephone Company, *John Moran.*

Because of the conditions existing in this case it is considered unnecessary to review the testimony at any length at this time. If the lines were actually connected and service being exchanged at present, the terms upon which such connection should continue could be fixed by this order, but until lines are connected and service furnished we will not be able to state what basis for charging should finally be adopted. When the connection has been resumed a study of the conditions surrounding the furnishing of service to petitioner will be made and a definite basis for charging determined. Until such time it is not believed that a resumption of service and connection upon the terms formerly governing will be an unreasonable requirement. That portion of the order in this case which fixes the terms upon which connection shall be continued is held in abeyance until a study of actual traffic conditions can be made.

IT IS ORDERED, That the Owen Telephone Company restore the connection between its lines and the line or lines of the Curtiss & Withee Telephone Company. Such connection shall be restored within ten days of the date of this order and service shall be furnished upon the terms which prevailed prior to the recent disconnection of the lines until a supplementary order of the Commission, finally fixing terms for such connection, is issued.

IN RE APPLICATION OF THE FARMERS' TELEPHONE COMPANY OF BEETOWN FOR AUTHORITY TO INCREASE ITS RATES AND FOR OTHER RELIEF.

Submitted April 16, 1913. Decided Jan. 7, 1914.

The Farmers Tel. Co. of Beetown applies (1) for authority to increase its rates and (2) for such action by the Commission as may seem just and reasonable with respect to: (a) the refusal of the C. & N. W. Ry. Co. to pay for a telephone installed in its depot at Lancaster; (b) the proposal to have a full metallic line built between Lancaster and Platteville and the division of the cost of constructing such line between the applicant and the Platteville, Rewey and Ellenboro Tel. Co.; (c) the furnishing of service by the Peoples Tel. Co. within the city of Lancaster; and (d) the service rendered over the lines of the Fennimore Mut. Tel. Co. extending from Lancaster to Fennimore. The Farmers' Tel. Co. operates a total of nine exchanges in Grant county and serves about 400 square miles of territory. The Commission investigated the organization of the company, the quality of its service, its switching connections with foreign lines and its revenues and expenses, and made traffic studies to determine (1) the extent and cost of switching service for foreign lines, (2) the possibility of improving various phases of the service rendered by the applicant and (3) proper toll charges for calls between central offices. In connection with the determination of the cost of switching service for foreign lines, and for other purposes, the valuation made in 1909 of the physical property of the applicant was revised and brought up to date as of April 1, 1913, and the value of the property used by foreign lines was determined. For the purpose of fixing reasonable toll rates between the various central offices connected to the applicant's so-called "Fennimore lines" between Lancaster and Fennimore an approximate valuation of these lines was made and used in connection with the results obtained in the traffic study in determining the cost of service. With respect to organization the applicant company was found to be practically without a real head. There is a board of seven directors chosen one from each of the principal exchanges, but this board has little to do as a unit with the affairs of the company as a whole, for in practice each director is responsible only for the affairs of the company at his particular central. The records of the applicant are incomplete. It was therefore necessary to construct income and expense accounts upon the basis of such record information as could be obtained, supplemented by other data in the possession of the Commission.

The practice followed generally by telephone companies in Wisconsin in refusing to place village subscribers on rural lines is, in most instances, in the interest of good service. The applicant has allowed certain farmers who have moved into town to connect with their old rural lines, instead of insisting that they be

placed on separate lines, because of objections these subscribers have made to the quality of service furnished over the village lines and the charge of 25 cts. exacted from them in certain exchanges for service after 9 p. m., and because they desire immediate connection with their friends and relatives on the rural lines. This is believed to be detrimental to the service as a whole and the order therefore authorizes the applicant to place such subscribers on separate lines, providing changes are made in the organization and operating methods which are satisfactory to the Commission.

It is the duty of telephone companies, under sec. 1797m—90 of the statutes, to own the telephone instruments connected to their lines. The Commission will therefore require that the applicant purchase and maintain all telephones now owned by subscribers.

Held: 1. The service rendered by the applicant is below the standard which should be maintained by it. This is due in part to the fact that practically every line serving subscribers directly is of grounded construction and to the further fact that many of the lines have an abnormally high number of subscribers. The poor construction and the present poor condition of the lines appear, in turn, to result largely from the nature of the organization and plan of operation of the company. The alteration of the articles of organization and the by-laws, so as to provide for a general manager giving all of his time to the work, a board of directors to act as a unit in controlling the affairs of the company, and a competent bookkeeper is deemed necessary. 2. The giving of unlimited free service between the applicant's nine exchanges and to most of the connecting companies is unjust to those subscribers who do not avail themselves of this service and it results, moreover, in considerable congestion of the lines. 3. The traffic over the applicant's lines from Lancaster to Fennimore is congested and measures should be taken to reduce the number of calls per day passing over these lines. In view of the fact that the rates in force are not such as to warrant the construction of additional free lines, it is deemed best to place a toll charge on messages going over these lines. In addition it is strongly recommended that the Annaton and Preston Tel. Co., which is at present connected to one of the lines in question, cut its line, which now extends through Preston to Montfort, in two and terminate it at Preston. This it is believed will improve the service over the applicant's line without working a hardship on the Annaton and Preston Co. 4. A toll charge may reasonably be made for service over the trunk line between Lancaster and Platteville, owned jointly by the applicant and the Platteville, Rewey and Ellenboro Tel. Co., when the line is made "full metallic" as contemplated.

It is ordered that the applicant be authorized to put into effect a schedule of rates determined by the Commission, at such time as the applicant shall have made such changes in its management, organization, accounting methods, and procedure as meet the requirements of the Commission. The applicant is also authorized, upon the adoption of this schedule, to place on separate lines all telephones which are located within the city or village limits and are now connected to rural lines running directly into an exchange belonging entirely to the applicant. It is further ordered that the applicant proceed to make "full metallic" its half of the trunk line between Platteville and Lancaster, construction to begin as soon as the Platteville, Rewey and Ellenboro Tel. Co. shall have agreed to build its

half of the line, and that upon the completion of the work the present free service shall be suspended and a toll charge of 7 cts. per call substituted, the revenue therefrom to be divided equally between the two companies, unless they shall agree upon some other basis of division. The Annaton and Preston Tel. Co. is given authority, if the toll charges authorized are put in effect for service over the trunk lines between Lancaster and Fennimore, to connect its Stitzer exchange, at its option, to the grounded trunk line of the applicant running from Lancaster to Fennimore.

The schedule of rates authorized covers business, residence and rural telephones and switching service for foreign lines and provides toll charges for calls passing between different exchanges of the applicant or between exchanges of the applicant and foreign exchanges and toll charges to be adopted in place of the present free service over the company's trunk lines from Lancaster to Fennimore. Subscribers connected to lines entering two of the applicant's exchanges are to have unlimited service to both exchanges; subscribers connected to lines entering but one of the applicant's exchanges are to have the option of taking unlimited service to the one exchange at a specified rate, or unlimited service to that exchange and their choice of any one additional exchange of the system which may be called directly from the exchange to which their line is connected, at a higher rate. All calls passing between two of the applicant's exchanges are to be routed over the trunk lines where such lines exist and are to be charged for at the rate of 5 cts. per call, except calls made under the provisions for unlimited service. All calls passing between one of the applicant's exchanges and an exchange of any foreign company made a party to the instant case, are to be routed over through lines where such lines exist and to be charged for at the rate of 5 cts. per call, except for Lancaster-Platteville, Lancaster-Fennimore, and Lancaster-Preston calls, which are provided for elsewhere in the order, and the total revenue from calls of this class going over trunk lines owned entirely by one company is to be divided as follows: 70 per cent to the owner of the line and 30 per cent to the company connecting with the line. In cases where there is no trunk connection between two exchanges of the applicant and it is necessary to route calls over loaded lines, a toll charge of 4 cts. per call is to be made, except for calls made under the provisions for unlimited service. In cases where there is no trunk connection between one of the applicant's exchanges and a foreign exchange and calls are routed over loaded lines belonging to the applicant or to a foreign company, a toll charge of 4 cts. is to be made and the total revenue from such calls is to be divided as follows: 30 per cent to each company performing switching service and 40 per cent to the owner of the line.

No part of the schedule authorized is to be adopted unless the entire schedule is adopted. If the schedule is not adopted the rate for switching service for foreign lines is to be $1.00 per telephone per year for telephones on lines connecting with a second exchange and $1.50 per telephone per year for telephones on lines not connecting with a second exchange.

The Farmers' Telephone Company of Beetown, on March 11, 1913, filed application with this Commission seeking authority to increase its rates and other relief.

The rates in effect at the time of the application as given in the petition were as follows:

$9.00 per year if patron furnishes instrument.
12.00 per year if company furnishes instrument.
4.00 per year for extension phones.
10.00 per year for depots.
Switching Services:
$27.00 per year per line for independent lines with no other switchboard.
20.00 per year per line—Fennimore Farmers' Telephone Company.
115.00 per year for 11 lines of The Peoples Telephone Company.

The applicant states that the present rates are inadequate and inequitable as among various classes of users and service, and prays for relief by the authorization of such schedule of rates for exchange service and switching service as the Commission shall find just and reasonable and for such toll rate and division of toll earnings on the line from Lancaster to Fennimore as may appear just and reasonable.

The applicant also prays for such orders as may appear just and reasonable covering the following matters:

A. The refusal of the Chicago & North Western Railway Company to pay for telephone installed in its depot at Lancaster.

B. The proposal to have a full metallic line built between Lancaster and Platteville and the division of the cost of constructing such line between the applicant and the Platteville, Rewey and Ellenboro Telephone Company.

C. The practice of the Peoples Telephone Company of furnishing service to subscribers within the city of Lancaster.

D. The service rendered over the lines of the Fennimore Mutual Telephone Company extending from Lancaster to Fennimore.

The applicant further states that the following are the names of telephone companies and lines affected by the provisions of the application:

Lancaster exchange	Fennimore Mutual Tel. Co.,	Fennimore,	Wis.
	Becker Liberty Tel. Co.,	Lancaster,	"
	Annaton & Preston Tel. Co.,	"	"
	Grant County Tel. Co.,	"	"
	Independent Line No. 139,	"	"
	Independent Line No. 11	"	"
	Peoples Telephone Co.,	Mt. Hope,	"

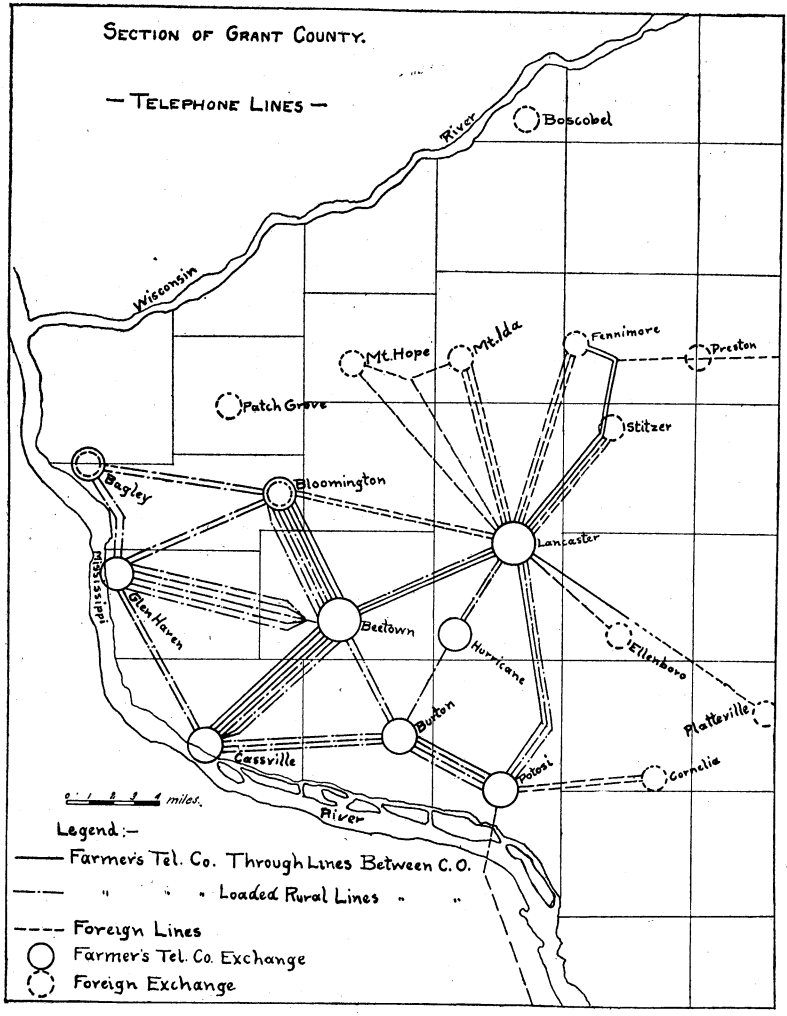
Potosi exchange	Independent Line	No. 5,	Potosi,	Wis.
	" "	No. 6,	"	"
	" "	No. 10,	"	"
	" "	No. 12,	"	"
	" "	No. 13,	"	"
	" "	No. 14,	"	"
	" "	No. 15,	"	"

Formal hearing on this case was held at the office of the Commission at Madison on April 16, 1913. *J. A. Jamison,* president, and *C. W. Hampton,* secretary and treasurer, of the Farmers Telephone Company of Beetown appeared for the applicant and *F. G. Whitmore,* president, and *Wm. Leighton,* secretary of the Peoples Telephone Company of Mt. Hope, and *Wm. Billings* of Independent Line No. 139 appeared representing their respective companies.

From the testimony offered at the hearing and through several reports in this matter made by members of the Commission's staff the following facts have been brought out.

Extent of Operation.

The Farmers' Telephone Company of Beetown operates a total of nine exchanges, one at each of the following villages and cities of Grant county, namely: Lancaster, Hurricane, Potosi, Beetown, Burton, Cassville, Glen Haven, Bagley and Bloomington. The exchanges in the latter two places are operated jointly with the Peoples Telephone Company of Mt. Hope. The territory supplied with telephone service by the Farmers' Telephone Company comprises about four hundred square miles and extends from Lancaster and vicinity on the east to the Mississippi river on the west and from the Mississippi river on the south to Lancaster, Bloomington and Bagley on the north. On January 1, 1913, there were approximately 876 stockholders or members, each owning his own phone, and 214 nonstockholders or nonmembers, of whom 132 owned their phones and 82 used phones supplied by the company. This gives a total of 1,090 phones owned and operated by the company. The lines supplying service directly to these subscribers are practically all of grounded construction, including the local lines within the village limits of each exchange. The accompanying map gives, in general, the location of all exchanges and lines which connect two central offices of both the Farmers' Telephone Company and connecting companies, and Table I supplements the map with


SECTION OF GRANT COUNTY.
— TELEPHONE LINES —
Wisconsin River
Boscobel
Mt. Hope
Mt. Ida
Fennimore
Preston
Patch Grove
Stitzer
Bagley
Bloomington
Lancaster
Mississippi River
Glen Haven
Beetown
Hurricane
Ellenboro
Platteville
Burton
Cassville
Potosi
Cornelia
0 1 2 3 4 miles.
Legend:—
Farmer's Tel. Co. Through Lines Between C. O.
" " " Loaded Rural Lines " "
Foreign Lines
Farmer's Tel. Co. Exchange
Foreign Exchange

somewhat more detailed information bearing on the same subject. Besides the lines shown in this table there is the rural construction, both foreign and that owned by the Farmers' Telephone Company, which connects with but one central office, and there are also the local lines at each exchange serving the subscribers within the village or city limits. The number of foreign lines connecting with an exchange of the Farmers' Telephone Company and not running to a second exchange is nine, while the number of applicant's rural lines connecting with but one exchange is approximately forty-seven.

TABLE I.

TABLE SHOWING CHARACTER, NUMBER AND OWNERSHIP OF LINES CONNECTING TWO EXCHANGES IN THE TERRITORY SERVED BY THE FARMERS' TELEPHONE CO. OF BEETOWN.

From	To	Lines owned by Farmers' Tel. Co.				Lines owned by Foreign Companies.		
		Trunk Lines.						
		Full metalic.	Grounded.	Phantom grounded.	Loaded lines grounded.	Grounded trunk lines.	Grounded loaded lines.	Name of owner.
Lancaster	Potosi	.....	1	.....	2	.....	.....	
Lancaster	Hurricane	.....	.....	.....	2	.....	.....	
Lancaster	Beetown	1	.....	.....	1	.....	.....	
Lancaster	Bloomington	.....	.....	.....	.....	.....	½	Peoples Tel. Co.
Lancaster	Mt. Hope	.....	.....	.....	.....	1	1	Peoples Tel. Co.
Lancaster	Mt. Ida	.....	.....	.....	.....	.....	4	Peoples Tel. Co.
Lancaster	Fennimore	.....	.....	.....	.....	.....	3	2 by Fenim. M. T. Co. 1 by Peoples T. Co. 1 by Annat'n & Preston
		1	1	.....	.....	.....	.....	
Lancaster	Stitzer	.....	.....	.....	.....	.....	2	1 by Ind. Far. Line.
Lancaster	Ellenboro	.....	.....	.....	.....	.....	1	Foreign company.
Potosi	Hurricane	.....	.....	.....	3			
Potosi	Burton	.....	1	.....	3			
Potosi	Dubuque[1]	.....	.....	.....	.....			
Burton	Hurricane	.....	.....	.....	1			
Burton	Beetown	.....	.....	.....	2			
Burton	Cassville	.....	.....	.....	3			
Beetown	Cassville	1	1	1	3			
Beetown	Glen Haven	.....	.....	.....	5			
Beetown	Bloomington	1	1	1	4			
Cassville	Glen Haven	.....	.....	.....	2			
Glen Haven	Bloomington	.....	.....	.....	2			
Glen Haven	Bagley	.....	.....	.....	2			
Bagley	Bloomington	.....	.....	.....	2			
Platteville	Lancaster	[2]1	.....	.....	.....			

[1]Connecting Potosi and Dubuque is a full metallic line owned by the Interstate Independent Telegraph and Telephone Co.

[2]Owned jointly by Farmers' Telephone Company of Beetown and the Platteville, Rewey and Ellenboro Tel. Co.

ORGANIZATION.

The company was organized in 1898 as a stock company with a capitalization of $4,500, consisting of three-hundred shares of $15 each. In 1901 the articles of incorporation were amended changing the company from a stock to a non-stock corporation, reserving the right to pay dividends. At present there are approximately 876 members of the corporation who have paid from $15 to $25 each for their memberships. On January 1 of each year as many of these members as are able to do so meet to consider all matters pertaining to the general policy of the company and hear and pass on financial reports made to them by each of its seven directors. Since Beetown is the most centrally located of any of the exchanges, the annual meetings are held at this place. However, there are no railway facilities at Beetown and it is not at all surprising to learn, when we take into consideration the extent of the territory served by the company, that it is extremely difficult to get a majority of the members present at these annual meetings.

The above mentioned directors are chosen one from each of the principal exchanges. Together they form a board of directors for the company. This board as a unit has very little to do with the affairs of the company. On the other hand, each member of the board is held personally responsible by the stockholders at the annual meeting for the affairs of the company at his particular central office. In general he takes care of all trouble work and new construction, makes collections and expenditures as he sees fit and at the end of the year prepares a statement of receipts and disbursements which he presents at the annual meeting of the stockholders. These statements are entered in a memorandum book by the secretary, together with other miscellaneous records of receipts for telephone rent and material and labor disbursements, and this book constitutes the entire records of the company. Besides making the above reports each director, as he sees fit during the year, reports to the secretary any telephones which may have been installed or discontinued or other miscellaneous matters. Inasmuch as the making of these reports is not obligatory neither the secretary nor the president has an authentic record of the total number of telephones installed.

SERVICE.

It is often difficult to determine definitely the quality of service rendered by a telephone company because, as a rule, the personality of the observer enters largely into the result obtained by him. However, in most cases there are a number of factors that tend to indicate whether or not the company has the ability to furnish good telephone service.

In the present case, general observations which were made during the time the traffic study—referred to later—was being conducted at Lancaster and Potosi indicate that the service is below the standard that can be required under the circumstances. These observations show that there is a very great amount of cross-talk on practically all lines. This is due to the fact that practically every line serving subscribers directly is of grounded construction, even including lines serving local subscribers within the village or city limits of the various exchanges. Investigation shows that not only are practically all local lines grounded but that upon many of them the number of subscribers is abnormally high. In the Lancaster exchange there are within the city limits of Lancaster eight local lines serving from five to ten subscribers each. It is also a common practice to allow certain subscribers who move from their farms to take up their residence in a village to connect their telephones to the rural lines to which they were previously connected. At present there are on the system a total for forty-five telephones thus connected. It is understood that the company stands ready to install private lines for these subscribers but that they prefer to be on their old rural line. This unfortunate state of affairs is probably due in a measure to the lack of appreciation on the part of these subscribers of the value of a single line. However, the fact cannot be overlooked that their attitude is an indication that the service given by the company at these various central offices is below standard.

As may be noted by the foregoing map and by Table I, there are a large number of heavily loaded country lines connected to two central offices, and these are used as through lines between the exchanges thus connected. It seems impossible that adequate telephone service can be rendered over these lines.

Other facts concerning the organization of the company and the duties of the individual directors seem to have an important

bearing on the quality of service rendered by this utility. The articles of organization of the company provide that the directors shall each receive only $2 per day plus actual expenses for time spent working for the company. Most of the directors carry on private business of their own besides taking care of the telephone work at their various exchanges. The low wage, and the fact that the telephone work may in certain cases be a secondary consideration to private business interests, very likely contribute to the lax manner of construction and upkeep of the property evidenced by the low average condition per cent of the property as given in the Commission's valuation. It is believed that the organization of the company is at fault on this point and should be altered.

TABLE II.

FOREIGN LINES.

TABLE OF FOREIGN LINES ENTERING LANCASTER AND POTOSI EXCHANGES.

Lancaster Exchange.

Names of Companies.	No. of lines (loaded).	No. of phones.	Average No. of phones per line.	Switching charge per line.	Switching charge per phone.	Total switching charge.
Peoples Telephone Co.[1]	11	132	12	$10.45	$0.87	$115.00
Fennimore Mutual Tel. Co.	2	37	18.5	20.00	1.08	40.00
Grant County Telephone Co	1	16	16	27.00	1.69	27.00
Annaton & Preston Tel. Co.	1	15	15	15.00	1.00	15.00
Independent Line No. 117	1	14	14	27.00	1.93	27.00
" " " 139	1	15	15	27.00	1.80	27.00
" " " 111	1	9	9	25.00	2.78	25.00
Total	18	238	13.2	$15.53	$1.16	$276.00
Potosi Exchange.						
Farmers' Independent Co's.	7	83	11.8	$27.00	$2.28	$189.00

[1] The Peoples Tel. Co. also owns one trunk line from Lancaster to Mt. Hope and Mt. Ida.

The foreign lines paying switching fees to the Farmers' Telephone Company all enter either through the Lancaster or the Potosi exchange. The above table is a summary of data relating to these lines.

The Peoples Telephone Company is a mutual corporation operating in territory lying immediately north of the territory of the applicant and comprising the villages of Patch Grove, Bridgeport, Millville, Woodman, Werley, Mt. Ida, Mt. Hope,

Bagley and Bloomington. As has been stated, the exchanges at Bagley and Bloomington are operated jointly with the Farmers' Telephone Company of Beetown. The total number of phones operated by the Peoples Telephone Company is approximately 765. Of the 12 lines owned by this company entering the Lancaster switchboard, 8 connect with a second exchange. The lines connecting with a second exchange together with the exchanges which they connect are shown in Table I. The testimony shown in the case develops the fact that from 1898 to 1900 the applicant and the Peoples Telephone Company operated the exchange at Lancaster jointly, each company paying half the expense and receiving half the profits from rents. In 1900 an agreement was reached between the two companies whereby the Peoples company turned over to the applicant its interest in that part of the Lancaster system lying within the city limits of Lancaster. The only consideration in the matter, it appears, was a promise on the part of the Farmers' Telephone Company to do the switching service required at the Lancaster exchange by the Peoples Telephone Company for a total of $115 per year.

The facts in the case do not disclose whether or not this is at present a binding contract. However, if it is not binding at the present time the rate per telephone for switching service in this case will be the same as the general rates for this service hereinafter provided.

The Fennimore Mutual Telephone Company has two lines entering the switchboard of the applicant at Lancaster with a total of 37 directly connected phones. For switching these lines the applicant gets a total of $40 per year. The Fennimore Mutual Telephone Company operates an exchange in the city of Fennimore and serves part of the surrounding rural territory. The total number of phones owned and operated by this company as given in its 1913 report is 377.

The Grant County Telephone Company is a mutual corporation of farmers operating an exchange of 145 telephones in and around the village of Livingston, Grant county. This company owns one loaded rural line connecting with the Lancaster exchange on which there are 16 subscribers and for which the company pays a switching fee of $25 per year.

The Annaton and Preston Telephone Company operates exchanges at Stitzer, Preston and Montfort and has a total of ap-

proximately 312 phones connected. This company has one loaded rural line of 15 phones running between Lancaster and Stitzer for which it pays to the applicant a switching fee of $15 per year.

In addition to the above mentioned connecting companies, there are three independent lines running into the Lancaster exchange; two of these, lines Nos. 117 and 139, each pay $27 per year switching fee while the third, No. 111, pays $25, as shown in the above table.

The seven foreign lines entering the Potosi exchange are all independent and each pays $27 per year switching fee.

PLATTEVILLE LINE.

A grounded trunk line runs between Lancaster and Platteville, half of which is owned by the applicant and half by the Platteville, Rewey and Ellenboro Company. A discussion of this line appears elsewhere in this opinion.

LONG DISTANCE CONNECTIONS.

The applicant has two long distance outlets. The Wisconsin Telephone Company owns a line from its exchange at Lancaster to the exchange of the applicant at Beetown. All long distance calls from the applicant's lines to the Wisconsin Telephone Company must go over this line. The second outlet is over the lines of the Interstate Independent Telephone and Telegraph Company, which operates a toll system in northern and central Illinois. This company owns a full metallic line running from the applicant's exchanges at Potosi and Cassville to Dubuque. In several of the small exchanges of the applicant the practice is to allow the operators to collect and keep as part of their pay the per cent of revenue from long distance calls which the toll line company allows the connecting company to retain.

COMPETITION.

Practically the only vital competition which exists for the Farmers' Telephone Company is at Lancaster. The Wisconsin Telephone Company has an exchange installed at this point which gives service to approximately 165 subscribers. Although there are a number of other companies entering into and oper-

ating in the territory served by the applicant, competition can hardly be said to exist, inasmuch as most of these companies are connected directly or indirectly to some part of the Farmers' Telephone Company's system and free service is established.

PHYSICAL VALUE OF PROPERTY.

In 1909 a valuation of the physical property of the Farmers' Telephone Company of Beetown was made by the Commission. This valuation was later revised and brought up to date as of April 1, 1913. The following is a summary of this valuation as of the latter date:

PHYSICAL VALUATION OF FARMERS' TELEPHONE COMPANY OF BEETOWN

BEETOWN, GRANT COUNTY, WIS.

	City.		Rural.		Total.	
	Cost new.	Present value.	Cost new.	Present value.	Cost new.	Present value.
A. Land						
B. Distribution system						
B-1. Poles & wire sup'orts	$1,060	$641	$24,126	$11,223	$25,186	$11,864
B-2. Aerial wire	783	366	9,400	2,439	10,183	2,805
B-3. Aerial cable	1,397	1,102	.....	.....	1,397	1,102
B-4. Underground cable	8	6	.....	.....	8	6
B-5. Undergro'd conduit	10	7	.....	.....	10	7
B-6. Substation equipm't	1,437	1,218	.....	.....	1,437	1,218
Total B	$4,695	$3,340	$33,526	$13,662	$38,221	$17,002
C. Bldgs. & misc. structures	.....	.....	.....	.....	.....	.....
D. Exchange equipment	$2,453	$2,213	.....	.....	2,453	2,213
E. General equipment	62	31	.....	.....	62	31
Total	$7,210	$5,584	$33,526	$13,662	$40,736	$19,246
Add 12 per cent. (see note below)	865	670	4,023	1,639	4,888	2,309
Total	$8,075	$6,254	$37,549	$15,301	$45,624	$21,555
F. Paving	.....	.....	.....	.....	.....	.....
H. Materials & supplies	98	98	.....	.....	98	98
Total	$8,173	$6,352	$37,549	$15,301	$45,722	$21,653

NOTE:—Addition of 12 per cent to cover cost of engineering, superintendence, interest during construction, contingencies, etc.

Supplementing this valuation was an apportionment to show the value of that part of the Farmers' Telephone Company's property which is used by foreign companies. The approximate value of this apportioned property is as follows:

	Cost of reproduction.	Present value.
LANCASTER EXCHANGE.		
Poles and wire supports	$124.00	$97.00
Labor on wire	58.00	41.00
Cable and terminals	75.00	59.00
Switchboard	84.00	76.00
Total	$341.00	$273.00
Add 12 per cent (see note)	41.00	33.00
Total	$382.00	$306.00
POTOSI EXCHANGE.		
Switchboard and terminals	$38.00	$30.00
Miscellaneous construction	25.00	18.00
Total	$53.00	$48.00
Add 12 per cent (see note)	6.00	5.00
Total	$59.00	$53.00
Total foreign	$441.00	$359.00

NOTE:—Addition of 12 per cent to cover cost of engineering, superintendence, interest during construction, contingencies, etc.

Estimate of value of total property included in the Lancaster exchange:

	Cost of reproduction	Present value
City of Lancaster	$5,654	$4,161
Rural (24 per cent of total rural)	9,010	3,672
Total	$14,664	$7,833

Estimate of value of total property included in Potosi exchange:

	Cost of reproduction	Present value
Village	$347	$288
Rural (11 per cent of total rural)	4,130	1,683
Total	$4,477	$1,971

The above percentages of rural property assigned to the Lancaster and Potosi exchanges have been determined by taking an average of the results obtained by the use of the following two methods:

1. Rural property was divided according to the number of rural phones paying rental to the various exchanges.

2. From data at hand the total wire mileage of each exchange was estimated and the percentage to be apportioned to each exchange was computed.

The results obtained by the two methods were very nearly

identical and it is believed that an average of these results represents a fair division of the rural property.

Income Account (Total System)

The entire financial records of the company consist of one memorandum book made up into a subdivided statement of receipts and disbursement. This book is closed on January 1 each year for the purpose of taking off the published annual statement of the secretary to the stockholders. Since the cash book contains a statement of actual receipts instead of revenues, the only way of arriving at the revenues for any particular period is to check up and classify the number of subscribers receiving telephone service during the period. This has been done for the year ending Jan. 1, 1913, and the revenues shown in the income account have been computed from the following classified statement of subscribers receiving service on that date:

TABLE III.

Location of exchange	Stockholders (each has own phone).	Nonstockholders.	
		Company's phone	own phone.
Lancaster	296	70	44
Beetown	181	7	36
Potosi	93	.....	5
Hurricane	55	4	2
Burton	45	.....	2
Bloomington	100	1	15
Cassville	106	.....	28
Total	876	82	132

In the above list the subscribers of the Glen Haven exchange have been included with Beetown and those of Bagley with Bloomington. As stated elsewhere, owing to the manner of keeping the records, it is impossible to determine positively the number of subscribers, but it is believed that the above list is approximately correct. Using this statement as a basis the following revenue account has been constructed. Each item is fully explained by foot note.

1.	876 members at $9.00 per year	$7,884.00
2.	82 nonmembers at $12.00 per year (with company's phone)	984.00
3.	132 nonmembers at $9.00 per year (own phone)	1,188.00
4.	22 extra phones at $4.00 per year	88.00
5.	Extension phones and part time subscribers	109.50
6.	Pay station earnings	183.35
	Total exchange telephone earnings	$10,436.85
7.	15% commission on Wis. Tel. Co. outgoing calls	$7.88
8.	20% commission on Interstate Tel. & Teleg. Co. outgoing calls	22.46
	Earnings from switching service:	
9.	Lancaster exchange	276.00
10.	Potosi exchange	189.00
	Total earnings from connecting lines	$495.34
	Total operating revenues	$10,932.19

Exnlanatory Notes:

1. The rate per telephone per year for members is $9.00. This amount is cut down to $7.25 by allowing members what is called a $1.75 dividend. This dividend is really an arbitrary rebate to the members since it is allowed on the monthly bill and is not a dividend declared at the end of the year, nor does its amount depend upon the financial condition of the company. The total amount if this rebate for the 876 members at $1.75 per phone is $1,533.00, but as the nominal rate is $9.00, the total is shown in item No. 1.
2. Nonmembers with phones which are owned by the company are charged at the rate of $12.00 per year.
3. Nonmembers owning their own phones are charged $9.00 per year.
4. A number of stockholders in the various exchanges have more than one phone. The rate for the extra phone is $4.00 per year.
5. This amount represents earnings from extension phones and part-time subscribers for the systm.
6. This amount is the total paystation receipts.
7. Partly because of the competition existing between this company and the Wisconsin Telephone Company, and partly because of the fact that at some of the central offices the 15 per cent commission from the Wisconsin Telephone Company toll calls has been turned over to the operators as part of their pay, the actual earnings to the company from this source are very small.
8. As stated elsewhere, the Interstate Telegraph and Telephone Company connects with this company's system at Potosi and Cassville. This item is the 20 per cent commission allowed on outgoing calls.
9. For the details of this item see Table II.
10. For the details of this item see Table II.

REVENUE ACCOUNT FOR LANCASTER EXCHANGE.

296	Members at $7.25 per phone, net	$2,146.00	
296	Members rebate at $1.75 per phone, net	518.00	
70	Nonmembers at $12.00 per phone, net	840.00	
44	Nonmembers at $9.00 per phone, net	396.00	
14	Extra phones at $4.00 per phone, net	56.00	
2	Extension phones		
13	Part time subscribers	109.50	
	Paystation earnings	68.00	
	Total exchange telephone earnings		$4,133.50
	Commissions from Wis. Tel. Co. & Interstate Tel. and Teleg. Company	$8.50	
	Earnings from switching service	276.00	
	Total earnings from connecting lines		284.50
	Total earnings		$4,417.00

REVENUE ACCOUNT FOR POTOSI EXCHANGE.

93 Members at $7.25 per phone, net	$674.25	
93 Members rebate at $1.75 per phone, net	162.75	
5 Nonmembers (own phone) at $9.00 per phone, net	45.00	
4 Extra phones at $4.00 per phone, net	16.00	
Paystation earnings	16.50	
Total exchange telephone earnings		$914.50
Commissions from Wis. Tel. Co. and Interstate Independent Tel. & Teleg. Co	$5.00	
Earnings from switching service	189.00	
Total earnings from connecting lines		194.00
Total earnings		$1,108.50

EXPENSE ACCOUNT.

In order to obtain a statement of expenses it has been necessary to distribute to maintenance and operation, item by item, the details of disbursements as given in the secretary's report. During the year 1912 switchboards were purchased at Lancaster, Beetown and Cassville and one-half of a jointly owned switchboard was purchased at Bloomington, making a total for this item for the year of $1,306.36. Inasmuch as a fair allowance will be made for depreciation on the whole plant and as the cost of replaced switchboard equipment is an item properly chargeable to the depreciation reserve account rather than to maintenance, the cost new of the replaced switchboards has been withheld from the maintenance item for the year. The difference between the cost of the old equipment and the new has been taken into consideration by additions in the Commission's valuation.

Considerable reconstruction of lines has also been done during the period in question. Since all of this reconstruction is included in the company's report of wire plant expense for the year and as it was impossible to separate out the exact amount of this reconstruction, it has been deemed advisable to use an average figure per phone for wire plant expense. The reports of seven companies operating lines and exchanges similar to those of the applicant were investigated and the results seem to show that $1.75 per phone per year to cover wire plant expense is a fair average figure. For the 1,090 phones owned or

controlled by the company the wire plant expense then will amount to $1,907.50.

The following is a statement of expense for the year ending January 1, 1913:

EXPENSE ACCOUNT (Total System)

For year ending Jan. 1, 1913.

Central office expense	$3,598.77	
Wire plant expense	1,907.50	
Substation expense	928.41	
Commercial expense	601.67	
General expense	422.98	
Total of above items		$7,459.33
Depreciation of 6.5 per cent on cost new		2,971.93
Taxes		50.46
Total expense		$10,481.72
Total revenues		$10,932.19
Total expense		10,481.72
Gross income		$450.47

EXPENSE ACCOUNT (Lancaster Exchange)

Central office operating labor	$900.00	
Central office supplies and expenses	254.97	
Maintenance of central office	86.76	
Wire plant expense	668.00	
Substation expense	350.00	
Commercial expense	226.00	
General expense	158.50	
Total of above items		$2,644.00
Depreciation at 6.5 per cent on cost new		953.00
Taxes		15.64
Total expense		$3,612.64
Total revenues		$4,417.00
Total expense		3,612.64
Gross income		$804.36

EXPENSE ACCOUNT (Potosi Exchange)

Central office operating labor	$360.00	
Central office supplies and expenses	49.66	
Maintenance of central office	24.56	
Wire plant expense	179.00	
Substation expense	83.50	
Commercial expense	54.10	
General expense	38.00	
Total of above items		$788.82
Depreciation at 6.5 per cent on cost new		291.00
Taxes		4.95
Total expense		$1,084.77
Total revenues		$1,108.50
Total expense		1,084.77
Gross income		$23.73

APPORTIONMENT OF EXPENSES TO SWITCHING SERVICE.

Traffic Studies.

For the purpose of determining the extent and cost of switching service furnished to connecting lines a traffic study was made at Lancaster and Potosi, the only exchanges of the system which perform switching service for foreign lines. A two-day peg count was taken at the Lancaster exchange on August 4 and 6, 1913, and a one-day peg count at Potosi on August 5, 1913, a record being kept in each case of each number calling and called for the full twenty-four hours. The results of these studies are shown in the following tables:

TABLE IV.

TRAFFIC STUDY—SUMMARY OF RESULTS.

Class of service.	Explanation of classes of service.	Lancaster.					Potosi.				
		Percent of operator's time to each class of service	Total phones for each class of service.	Per cent of operator's time per phone.	Total lines for each class of service.	Per cent of operator's time per line.	Per cent of operator's time to each class of service.	Total phones for each class of service.	Per cent of operator's time per phone.	Total lines for each class of service.	Per cent of operator's time per line.
1	Local phones. Farmers' Telephone Company phones within village limits	38.6	254	.152	172	.224	14.0	25	.56	19	.736
2	Rural—Farmers' Tel. Co. Lines connected to 2nd exchange—calls to or from 2nd exchange	1.3	.....	.....	6	.216	5.1	.....	.....	9	.566
3	Rural—Farmers' Tel. Co. Lines connected to 2nd exchange—calls to or from rural phones	7.2	70	.103	.....	.....	31.4	100	.314	.....	.....
4	Rural—Farmers' Tel. Co. Lines not connected to 2nd exchange—calls to or from rural phones	18.5	140	.132	15	1.23	14.6	42	.348	4	1.05
5	Foreign rural lines connected to 2nd exchange—calls to or from 2nd exchange	2.9	.....	.....	11	.264	3.0	.....	.....	2	1.5
6	Foreign rural lines connected to 2nd exchange—calls to or from rural phones	12.3	177	.069	.....	.....	5.0	26	.192	.....	.....
7	Foreign rural lines not connected to 2nd exchange—calls to or from rural phones	7.0	61	.115	6	1.17	17.1	57	.30	5	3.42
8	Clear line Lancaster to Platteville	1.7	.....	.....	1	1.7	.....	.....	.....	.....	.....
9	Clear lines Lancaster to Fennimore	3.2	.....	.....	2	1.6	.....	.....	.....	.....	.....
10	Other clear lines to 2nd exchange	5.8	.....	.....	3	1.93	3.4	.....	.....	1	3.4
11	Calls back on same line or "ring back calls"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
12	Busy calls	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

TABLE IV.—Concluded.

TRAFFIC STUDY—SUMMARY OF RESULTS.

Class of service.	Explanation of classes of service.	Lancaster.					Potosi.				
		Percent of operator's time to each class of service.	Total phones for each class of service.	Percent of operator's time per phone.	Total lines for each class of service.	Percent of operator's time per line.	Percent of operator's time to each class of service.	Total phones for each class of service.	Percent of operator's time per phone.	Total lines for each class of service.	Percent of operator's time per line.
12[1]	Calls to or from operators (time, information, etc.)	.....	.....	.....	.....	.....	2.2	.....	.....	1	2.2
13	Long distance Interstate Tel. & Teleg. Co. line—Potosi to Dubuque.	....	.....	.....	.....	.....	4.2	.....	.....	1	4.2
15	Calls to or from Stitzer, Montfort, or Preston (on Fennimore lines)	1.5	.....	.....	1	1.5	.....	.....	.....	.....	.....
3 & 4	Total to rural phones owned or controlled by Farmers' Telephone Company	25.7	210	.122	.....	.....	56.0	142	.394	.....	.....
6 & 7	Total to rural phones owned or controlled by foreign telephone companies	19.3	229	.084	.....	.....	22.1	83	.266	.....	.....
2 & 5	Total to 2nd central offices over loaded rural lines	4.2	.....	.....	17	.247	8.1	.....	.....	11	.736
8, 9, 10 & 15	Total to 2nd central offices over clear lines (not long distance)	12.2	.....	.....	7	1.74	3.4	.....	.....	.....	.....
2, 5, 8, 9, 10 & 15.	Total to 2nd central offices over all lines	16.4	.....	.....	24	.683	11.5	.....	.....	.....	.....
2, 3 & 4	Total to all rural lines owned by Farmers' Telephone Company	27.0	.....	.....	21	1.29	61.1	.....	.....	13	4.7
5, 6 & 7	Total to all rural lines owned by foreign companies	22.2	.....	.....	17	1.30	25.1	.....	.....	7	3.59
2 & 3	Total to rural lines owned by Farmers' Telephone Company and connecting with 2nd exchange	8.5	.....	.....	6	1.7	35.5	.....	.....	9	3.99
5 & 6	Total to rural lines owned by foreign companies and connecting with 2nd exchange	15.2	.....	.....	11	1.38	8.0	.....	.....	2	4.0

TABLE V.

TABLE OF LOADING FACTORS

FOR TRAFFIC STUDIES AT LANCASTER AND POTOSI.

Classes of service (*to* these classes)	Classes of service (*from* these classes.)												
	1	2	3	4	5	6	7	8	9	10	11	13	15
1	1.0	1.2	1.2	1.2	1.2	1.2	1.2	1.0	1.1	1.0	1.0	2.0	1.2
2	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.2	1.2	1.2	2.2	1.3
3	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.3	1.3	1.3	2.3	1.4
4	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.3	1.3	1.3	2.3	1.4
5	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.2	1.2	1.2	2.2	1.3
6	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.3	1.3	1.3	2.3	1.4
7	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.3	1.3	1.3	2.3	1.4
8	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.1	1.0	1.0	.....	1.1
9	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.0	.....	1.0	1.0	.....	1.1
10	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.1	1.0	1.0	2.0	1.1
11	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.....	.....	.2
12	1.0	1.2	1.2	1.2	1.2	1.2	1.2	1.0	1.1	1.0	.....	2.0	1.2
12'	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	.....
13	2.0	2.2	2.2	2.2	2.2	2.2	2.2	.....	.....	2.0	2.0	.....	.....
15	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.2	1.2	1.0	.....	.....

TABLE

TRAFFIC STUDY—CITY OF

TABLE SHOWING DIVISION OF OPERATORS,

T—Average total calls of 2 day
A—Part of total weighted calls
B—Part of total weighted calls

Classes of service—(to these classes.)		Classes of Service 1		2		3		4		5	
		T	A	T	A	T	A	T	A	T	A
1	T	270	152.0	5	4.0	22	17.6	51	40.8	17	13.6
	B		118.		2.0		8.8		20.4		6.8
2	T	9	5.4	..	..	1	.7	6	4.5	..	..
	B		5.4		..		.5		3.3		..
3	T	18	10.8	..	..	4	2.8	24	16.8	..	..
	B		12.6		..		2.8		16.8		..
4	T	40	24.0	5	3.5	18	12.6	40	28.0	2	1.4
	B		28.0		3.5		12.6		28.0		1.4
5	T	18	10.8	..	..	..	..	1	.7	3	2.1
	B		10.8		..		..		.6		1.8
6	T	45	27.0	1	.7	5	3.5	4	2.8	1	.7
	B		31.5		.7		3.5		2.8		.7
7	T	25	15.0	..	..	1	.7	8	5.6	1	.7
	B		17.5		..		.7		5.6		.7
8	T	13	7.8	..	..	1	.7	6	4.2	1	.7
	B		5.2		..		.4		2.4		.4
9	T	17	10.2	..	..	1	.7	2	1.4	..	..
	B		6.8		..		.4		.8		..
10	T	45	27.0	1	.7	4	2.8	12	8.4	1	.7
	B		18.0		.4		1.6		4.8		.4
11	T	58	11.6	2	.4	83	16.6	142	28.4	7	1.4
	B		..		..		..		..		..
12	T	49	..	..	..	7	..	17	..	4	..
	B		..		..		..		..		..
12′	T	20	40.0	..	..	3	6.	2	4.	1	2.
	B		..		..		..		..		..
15	T	6	3.6	..	..	1	.7	..	..	1	.7
	B		3.6		..		.6		..		.6
Total A...			345.2		9.3		65.4		170.8		24.0
Total B...			218.8		10.2		40.6		100.6		18.6
Total A&B.....			564.0		19.5		106.0		271.4		42.6
Per cent of operators' time to each class of service			38.6		133		7.2		18.5		2.9

VI.

LANCASTER—*August 4—6. 1913.*

TIME TO VARIOUS CLASSES OF SERVICE.

study.
chargeable to incoming service.
chargeable to outgoing service.

(*from* these classes.)

6		7		8		9		10		15		Total
T	A	T	A	T	A	T	A	T	A	T	A	B
45	36. 18	37	29.6 14.8	8	4.8 3.2	26	17.2 10.4	32	19.2 12.8	9	7.2 3.6	218.8
1	.7 .5	..	.. ..	..	.. ..	1	.7 .5	..	.. ..	..	.. ..	10.2
5	3.5 3.5	1	.7 .7	1	.6 .7	1	.6 .7	4	2.4 2.8	..	.. ..	40.6
14	9.8 9.8	9	6.3 6.3	2	1.2 1.4	2	1.4 1.2	14	8.4 8.4	..	.. ..	100.6
3	2.1 1.8	2	1.4 1.2	..	.. ..	1	.6 .6	3	1.8 1.8	..	.. ..	18.6
17	11.9 11.9	9	6.3 6.3	1	.6 .7	3.	.7 ..	6	3.6 3.6	1	.7 .7	62.4
14	9.8 9.8	5	3.5 3.5	..	.. ..	2	1.2 1.4	2	1.2 1.4	..	.. ..	40.6
6	4.2 2.4	1	.7 .4	..	.. ..	4	2.8 1.6	4	2.4 1.6	2	1.4 .8	15.2
4	2.8 1.6	5	3.5 2.0	..	.. ..	..	.. ..	1	.6 .4	1	.7 .4	12.4
8	5.6 3.2	4	2.8 1.6	3	1.8 1.2	1	.7 .4	6	3. 6 2.4	..	.. ..	34.0
131	26.2 ..	30	6.0 ..	..	.. ..	17	3.4 ..	17	3.4 ..	15	3.0 ..	..
10	.. ..	9	.. ..	1	.. ..	3	.. ..	10	.. ..	1	.. ..	..
2	4. ..	..	.. ..	..	.. ..	2	4. ..	2	4. ..	3	6. ..	..
3	2.1 1.8	1	.7 .6	1	.6 .6	3	1.8 1.8	1	.6 .6	..	.. ..	10.2
	118.7 62.4		61.5 30.6		9.6 15.2		34.4 12.4		51.2 34.0		11.9 10.2	
	181.1		102.1		24.8		46.8		85.2		22.1	1,465.6
	12.3		7.0		1.7		3.2		5.8		1.5	100.

TABLE

TRAFFIC STUDY.—VILLAGE

TABLE SHOWING DIVISION OF OPERATORS.

T—Total calls
A—Part of total weighted calls
B—Part of total weighted calls

Classes of service (to these classes.)		Classes of Service									
		1		2		3		4		5	
		T	A	T	A	T	A	T	A	T	A
1	T	24	14.4	3	2.4	17	13.6	8	6.4	..	..
	B		9.6		1.2		6.8		3.2		..
2	T	6	3.6	..	..	8	5.6	9	6.3	..	..
	B		3.6		..		4.8		5.4		..
3	T	8	4.8	1	.7	86	25.2	19	13.3	1	.7
	B		5.6		.7		25.2		13.3		.7
4	T	7	4.2	4	2.8	7	4.9	7	4.9	1	.7
	B		4.9		2.8		4.9		4.9		.7
5	T	4	2.4	1	.7	3	2.1	5	3.5	..	..
	B		2.4		.6		1.8		3.0		..
6	T	2	1.2	..	..	..	..	2	1.4	..	..
	B		1.4		..		..		1.4		..
7	T	6	3.6	6	4.2	10	7.0	9	6.3	4	2.8
	B		4.2		4.2		7.0		6.3		2.8
10	T	..	..	..	..	..	..	..	..	..	..
	B		..		..		..		..		..
11	T	11	2.2	..	..	201	40.2	75	15.0	..	..
	B		..		..		..		..		.
12	T	6	..	..	..	10	..	11	..	..	..
	B		..		..		..		..		..
12′	T	5	10.0	1	2.0	11	22.0	..	..	..	..
	B		..		..		..		..		..
13	T	7	4.2	..	..	1	.6	..	..	..	..
	B		11.8		..		1.6		..		..
Total A...			50.6		11.0		121.2		57.1		4.2
Total B...			28.8		18.0		56.0		25.2		12.6
Total A&B			79.4		29.0		177.2		82.3		16.8
Per cent of operators time to each class of service.....			14.0		5.1		31.4		14.6		3.0

VII.

OF POTOSI.—*August 5, 1913*
TIME TO VARIOUS CLASSES OF SERVICE.

chargeable to incoming service.
chargeable to outgoing service.

(*from* these classes.)

6		7		10		12′		13		Total
T	A	T	A	T	A	T	A	T	A	B
1	.8 .4	8	6.4 3.2	5	3.0 2.0	5	3.0 2.0	1	1.6 .4	28.8
1	.7 .6	5	3.5 3.0	..	.. ..	1	.6 .6	..	.. ..	18.0
..	.. ..	9	6.3 6.3	..	.. ..	4	2.4 2.8	2	3.2 1.4	56.0
1	.7 .7	4	2.8 2.8	1	.6 .7	4	2.4 2.8	..	.. ..	25.2
..	.. ..	7	4.9 4.2	..	.. ..	1	.6 .6	..	.. ..	12.6
2	1.4 1.4	7	4.9 4.9	..	.. ..	..	.. ..	..	.. ..	9.1
4	2.8 2.8	5	3.5 3.5	..	.. ..	3	1.8 2.1	..	.. ..	32.9
1	.7 .4	..	.. ..	..	.. ..	2	1.2 .8	..	.. ..	1.2
49	9.8 ..	96	9.2 ..	1	.2 ..	..	.. ..	..	.. ..	....
1	.. ..	9	.. ..	..	.. ..	..	.. ..	..	.. ..	....
1	2.0 ..	6	12.0 ..	7	14.0 ..	..	.. ..	2	4.0 ..	....
..	.. ..	..	.. ..	..	.. ..	3.	.6 1.4	..	.. ..	14.8
18.9	18.9 9.1		63.5 32.9		17.8 1.2		12.6		8.8 14.8	365.7 198.6
	28.0		96.4		19.0		12.6		23.6	564.3
	5.0		17.1		3.4		2.2		4.2	100.0

The compilation of the results shown in the above tables comprised the following steps:

1. The "Classes of service," as given in Table IV were determined and each class was given a number.
2. The line numbers on each of the two switchboards were checked up and each line was listed under its proper class of service.
3. The peg counts for each exchange were gone over and at the side of each switchboard number was placed the number of the class of service to which that line belonged.
4. Totals were made of the number of calls from each class of service to every other class. These total calls appear in columns marked "T" in Tables VI and VII.
5. Obviously calls between certain classes of service take more time to complete than calls between certain other classes. Owing to the bridging construction of all rural lines, all calls, whether for central or for parties on the same line, come into the central office and require a certain amount of extra supervision by the operator which does not enter into the local call. Also the operator must spend more time with these rural calls on account of the code-ringing system and the requirement that she "listen in" to ascertain whether or not the line is already in use by other parties. In view of these facts it was necessary to introduce a certain factor called "loading factor" or "coefficient," by which to multiply the total number of calls between the various classes of service in order that the results obtained would show a proper division of the operators' time to these various classes of service. Giving the local to local call a coefficient of 1.0 the leading factors for the calls between the various other classes of service have been tentatively determined at figures shown in Table V. These loading factors were determined by as careful a study as possible of the conditions of operation and it is believed that they represent substantially accurate ratios of time required.
6. The next step was to divide each call into two parts, viz.: the part properly belonging to the class of service making the call and the part belonging to the class of service receiving the call. Relative to this division an analysis was made of data available in the Commission's files and the results obtained indicate that approximately 60 per cent of the total amount of time devoted by the operator to each call should be charged to the calling number and 40 per cent to the called number. These percentages support the contention that on the average the completed call is of more value to the person making the call than to the person called, and seem for the purposes of this case to

form a fair basis upon which to apportion the operators' time to calling and called classes.

7. In this step the above percentages together with the loading factors were applied to the total calls as given under "T" in Tables VI and VII, and the columns "A" and "B" were obtained. The numbers in column "A" represent the part of the total calls between any two classes of service, weighted by their loading factors and chargable to "originating" or "incoming" service. Numbers in column "B" (horizontal) represent the part of the total calls between any two classes of service, weighted by their loading factors and chargeable to "outgoing" or "receiving" service. The sum of A and B for any particular class of service gives the total relative amount of time given by the operator to that class, and this sum divided by the total of A and B for all classes gives the percentage of operators' time to each class of service. These percentages appear at the bottom of Tables VI and VII, also in summary, Table IV.

Expenses for Switching Service.

In the following tables (VIII and IX) the total expenses for the Lancaster and Potosi exchanges have been apportioned so as to show the cost of switching service:

TABLE VIII.

EXPENSE FOR SWITCHING SERVICE.

LANCASTER EXCHANGE.

Expense items.	Total expense for Lancaster exchange, all lines.	Total expense to all foreign lines.		Expense to foreign lines not connecting with 2nd exchange.		Expense to foreign lines connecting with 2nd exchange.		Expense to foreign subscribers on lines connecting with 2nd exchange.		Expense to 2nd exchange.	
		Per cent.	Amount.	Per cent.	Amount.	Per cent.	Amount.	Per cent.	Amount.	Per cent.	Am't
Central office operating labor	$900.00	22.2	$200.00	7.0	$63.20	15.2	$136.80	.....	.....	.....	.....
Central office supplies and expenses	254.97	8.2	20.90	2.6	6.62	5.6	14.28	.....	.....	.....	.....
Maintenance of central office	86.76	8.2	7.13	2.6	2.27	5.6	4.86	.....	.....	.....	.....
Wire plant expense	668.00	2.6	17.40	.8	5.40	1.8	12.00	.....	.....	.....	.....
Substation expense	350 00	.....	None	.....	.....	.....	.....	.....	.....	.....	.....
Commercial expense	226.00	.42	.95	.11	.25	.31	.70	.....	.....	.....	.....
Total of above items	$2,485.73	.....	$246.28	.....	$77.74	.....	$168.64	.....	.....	.....	.....
General expense	158.50	10.0	15.85	3.1	4.92	6.8	10.77	.....	.....	.....	.....
Total of above items	$2,644.23	.....	$262.23	.....	$82.66	.....	$179.41	.....	.....	.....	.....
Interest and depeciation at 13 per cent on cost new of Farmers' Tel. Co 's property used by foreign lines	.....	.....	50.00	31.6	15.80	68.4	34.20	.....	.....	.....	.....
Total expenses	.....	.....	$312.23	.....	$98.46	.....	$213.61	81.	$173.06	19.	$40.55
Total phones directly connected to foreign lines	.....	.....	328	.....	61	.....	.....	.....	177	.....	.....
Average expense per phone	.....	.....	$1.31	.....	$1.61	.....	.....	.....	$0.98	.....	.....
Total foreign lines connecting with 2nd exchange	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14
Expense per line	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	$2.90

TABLE IX.

EXPENSE FOR SWITCHING SERVICE.

POTOSI EXCHANGE.

Expense items.	Total expense for Potosi exchange all lines.	Total expense to all foreign lines.		Expense to subscribers on foreign lines not connecting with 2nd exchange.		Expense to subscribers on foreign lines connected with 2nd exchange.		Expense to 2nd exchange.	
		Per cent.	Amount.	Per cent.	Amount.	Per cent.	Amount.	Per cent.	Amount.
Central office operating labor	$360.00	25.1	$90.36	17.1	$61.56	5.0	$18.00	3.0	$10.80
Central office supplies and expenses	49.66	17.0	8.44	12.1	6.00	3.1	1.55	1.8	.89
Maintenance of central office	24.56	17.0	4.20	12.1	3.00	3.1	.76	1.8	.44
Wire plant expense	179.00	1.3	2.33	.93	1.67	.23	.41	.14	.25
Substation expense	83.50	.....	.....	.....	.....	.....	.....	.....	.....
Commercial expense	54.10	6.7	3.62	4.6	2.48	1.3	.71	.8	.43
Total of above items	$750.82	.....	$108.95	.....	$74.71	.....	$21.43	.....	$12.81
General expense	38.00	14.5	5.51	10.0	3.80	2.9	1.10	1.7	.65
Total of above items	$788.82	.....	$114.46	.....	$78.51	.....	$22.53	.....	$13.46
Interest and depreciation at 13 per cent on cost new of Farmers' Tel. Co.'s property used by foreign lines	.....	.....	7.67	71.4	5.47	17.9	1.38	10.7	.82
Total expenses	.....	.....	$122.13	.....	$83.98	.....	$23.91	.....	$14.28
Total phones directly connected to foreign lines	.....	.....	83	.....	57	.....	26	.....	.....
Average expense per phone	.....	.....	$1.47	.....	$1.47	.....	$0.92	.....	.....
Total foreign lines connecting with 2nd exchange	.....	.....	.....	.....	.....	.....	.....	.....	2
Expense per line	.....	.....	.....	.....	.....	.....	.....	.....	7.14

The percentages applied to the "Central office operating labor" are those given in the traffic study for these classes of service. The apportionment of "Central office supplies and expenses and maintenance" is made on the basis of the total number of lines of each class connected to the switchboard. The "Wire plant expense" apportionment is made on the basis of the relative value of the equipment owned by the Farmers' Telephone Company and serving the various classes. The "Commercial" expenses are apportioned according to the ratio of the number of foreign lines for a particular class of service to the total number of Farmers' Telephone Company's subscribers served by the exchange. This basis assumes that the bills for switching service will be rendered to each foreign company for each line connected to the switchboard of the Farmers' Telephone Company. The "General" expenses were apportioned as overhead to the other expenses. The apportionment of the total expenses for lines connecting with a second exchange to the subscribers on these lines and to the second exchange is made on the basis of the division of operator's time between these two classes of service.

It would appear from the foregoing analysis that the cost per telephone for switching for lines connecting with a second exchange is considerably less for both the Potosi and Lancaster exchanges than the cost per telephone for switching for lines not connected to a second exchange. Also the analysis indicates that with the present plan of organization and inefficient management of the company a switching rate of $1.00 per phone per year for lines connecting with a second exchange and $1.50 per phone per year for lines not connected to a second exchange are fair rates. However, a reorganization of the plan of operation of the company is to be recommended. This will mean a revision of the above expenses chargeable to switching service. This revision of the expense account will be taken up later in this discussion.

Fennimore Lines.

There are five lines connecting the applicant's Lancaster exchange with the exchange of the Fennimore Mutual Telephone Company at Fennimore. (See map.) Three of these lines are foreign, two of which are the property of the Fennimore Mutual Tel. Co. and the other the property of the Peoples Tele-

phone Company of Mt. Hope. All three lines are grounded and loaded[1] and have, respectively, 20, 17 and 11 phones directly connected. The other two lines are owned by the applicant. One is a grounded trunk[1] line running directly to Fennimore; the other is a full metallic line which, besides running to the switchboard of the Fennimore Company, connects with the Annaton & Preston Telephone Company at Stitzer. Also at a point between Stitzer and Fennimore, called Willow Corners, there is bridged onto this line a full metallic line connecting with the Annaton and Preston Telephone Company's exchanges at Preston and Montfort, and owned by the Annaton and Preston Company. Thus there are five central offices all connected to one line, namely: Preston, Montfort, Stitzer, Lancaster and Fennimore. The situation is a rather complex one and the various points of view which may be taken with regard to a betterment of service over the lines, taking into consideration a proper return to the owners, have been carefully studied. The average of the two-day traffic study over these lines shows the following:

Lancaster to Fennimore	31	calls
Lancaster to Stitzer, Preston, Montfort	17	"
Fennimore to Lancaster	43	"
Stitzer, Montfort and Preston to Lancaster	8	"
Calls between Fennimore, Stitzer, Preston, Montfort	36	"

Of the total calls between Lancaster and Fennimore (74) probably 75 per cent, or 55 calls, go over the grounded line connecting the two offices. All other calls listed above, or about 80 calls per day between all offices, go over one metallic line. This load appears to be higher than a normal load for this line should be; hence any plans which may be proposed as a remedy for the situation should look to a decrease in the number of calls per line per day in order that the traffic be less congested. Either more lines may be put up or a toll charge may be imposed upon calls going over these lines for the purpose of eliminating unnecessary calls. The former method will involve considerable extra expense and, it is believed, would unduly burden the companies concerned. Were these companies charging a rate for telephones commensurate with the extending of free telephone service to neighboring towns, the question of having more

[1] The term "Loaded lines" as used in the discussion of this case means lines to which rural telephones are connected. The term "Trunk lines" means lines between central offices to which there are no phones connected.

free lines at the disposal of the service might be considered. However, in the present instance such a rate is not in force. This, and the fact that there is a congestion on present lines, seems to make a toll charge per call the only fair solution of the problem.

An approximate valuation placed on these lines gives a cost new of $1,650 and a present value of $660. Depreciation at 6.5 per cent on the cost new amounts to $107.25. Interest at 6 per cent on $725 which, it would seem, represents a fair value of the present property, is $43.50. Assuming a wire plant maintenance for the lines of $3 per pole-mile, this expense, for the 15 miles of line, is $45. The sum of the above items amounts to $195.75 and represents the approximate earnings per year to which the owners are entitled for the use of the lines themselves.

Since the amount of traffic which will pass over these lines after a toll rate has been put into effect is more or less a matter of conjecture, it is difficult to arrive at a proper toll rate and apportion this rate to the various companies concerned.

The total average number of completed calls per day for the two-day traffic study at Lancaster is approximately 1,250. The total central office expense for this exchange is $1,241.73 per year, or $3.41 per day, and the average central office expense per call, 0.272 cts. However, this amount represents the cost to complete a free call and not a toll call. The toll call will involve the making out of a toll ticket, and extra supervision and collection not necessary for the free call. It is believed that this extra labor will in this case bring the cost of completing a toll call up to about 2 cts. per call.

Using this figure as a basis, the following schedule of tolls and apportionment of tolls to the various companies concerned has been constructed:

Calls between	Charge per call.	Per cent to Farmers' Tel Co.	Per cent to Fennimore Mutual Tel. Co.	Per cent to Annaton & Preston Tel. Co.
Lancaster and Fennimore	$0.07	70	30	.....
Lancaster and Stitzer	.05	60	.....	40
Lancaster and Preston	.07	65	.....	35
Fennimore and Stitzer	.05	20	40	40
Fennimore and Preston	.05	10	40	50
Stitzer and Preston	.05	10	.....	90

With the above schedule in effect, the Farmers Telephone Company will earn a fair return (about $200) upon its investment, provided the number of calls going over the lines is approximately 25 per cent of the present traffic. From data at hand it would appear that this is about what the actual traffic will be with a toll rate in force.

It will be noted that in the above schedule the Montfort exchange of the Annaton and Preston Company, which is at present connected to the line in question, has been omitted. It is believed that it will work no particular hardship to the Annaton and Preston Telephone Company to cut this line in two at its Preston Exchange and have its operator at that point handle calls originating at Montfort and terminating at Lancaster, Preston, Stitzer or Fennimore. Calls between Montfort and Preston with the present construction make the use of the line impossible between any of the other exchanges, hence the cutting in two of the line will considerably increase its efficiency. It is therefore strongly recommended that the full metallic line owned by the Annaton and Preston Telephone Company now connecting to the full metallic line running between Lancaster and Fennimore, and terminating at Montfort, be cut in two and terminated at Preston.

In addition it seems fair and in the interests of better service that the Annaton and Preston Company be allowed to connect its Stitzer exchange also to the grounded line of the applicant running between Lancaster and Fennimore if it so desires.

Service Over Fennimore Mutual Telephone Company's Loaded Lines.

Investigation was made of the service over the loaded lines between Lancaster and Fennimore. As has been stated elsewhere in the discussion of this case, there are three lines on which there are, respectively, 20, 17 and 11 telephones connected. Two of the lines belong to the Fennimore Mutual Telephone Company and the third is the property of the Peoples Telephone Company of Mt. Hope.

Investigation showed that the service over these lines was rather unsatisfactory. However, since the necessity of routing calls between Lancaster and Fennimore over loaded lines will be removed by certain parts of the order in this case and inas-

much as there has been no complaint relative to the service in question by the subscribers on these lines, the Commission will not at this time issue an order covering this point.

The Platteville Line.

The applicant owns one-half interest in a No. 12 iron wire trunk line between Lancaster and Platteville, the other half being owned by the Platteville, Rewey and Ellenboro Telephone Company. It has been proposed by the applicant that this line be made full metallic. The following is an estimate of the cost of the necessary construction.

FARMERS' TELEPHONE COMPANY OF BEETOWN.
LANCASTER TO PLATTEVILLE, WIS.
Additional Investment for Metallic Line.

	Unit.	Quantity.	Unit price.	Cost of reproduction.
No. 12 galvanized iron wire in place	Mile	16	$11.78	$188
No. 9 pony glass insulators	Each	640	.018	12
4 pin cross-arms complete in place	"	640	.50	320
Gaining and boring pole and transferring present wire to new cross-arm	Mile	16	2.00	32
Total above				$552
Add 12 per cent				66
Total cost				$618
½ to be borne by each company				309

A further estimate places the total apportioned cost of reproduction of the line at $950 and the present value at $536. Depreciation at 6.5 per cent of cost new, interest at 6 per cent on $600, which seems to represent a fair value of the property, and wire plant maintenance of $2.50 per circuit mile, make up a total of $137.75. This total would appear to be sufficient to meet operating expenses including a fair return to the owners for the use of the property.

The traffic study showed that the number of calls going over this line in both directions was 47 for the first day and 62 for the second. The average traffic for the two days was 54 calls. If we assume that the number of calls is decreased by 75 per cent by the application of a toll charge per call, we have 13.5 calls per day. Allowing 3 cts. per call to cover return on investment gives $147.82, which is fairly close to the amount computed above as necessary for this purpose. Assuming that it

will cost 4 cts. per call for switching at both ends of the line we have a total toll charge of 7 cts. per call. This seems to be a fair charge. The applicant and the Platteville, Rewey and Ellenboro Telephone Company will be authorized, upon the completion of a full metallic line between Platteville and Lancaster, to discontinue the free service now in effect and substitute therefor a toll charge of 7 cts. per call, which shall be divided equally between the two companies unless some other method of division shall be agreed upon.

TELEPHONES LOCATED WITHIN VILLAGE LIMITS AND CONNECTED WITH RURAL LINES.

It appears that the applicant has, until recently, allowed farmers who moved into town to connect their telephones directly onto their old rural lines instead of insisting that they be placed on separate lines. As has been stated elsewhere in this discussion, this has been carried on until, at the present time, there are located within the city or village limits of the various exchanges a total of 34 of this class of telephones belonging to the Farmers' Telephone Company and a total of 11 which are the property of foreign lines. Considerable correspondence has been carried on with the applicant and various subscribers in regard to this question and an inspection was made of the situation at Cassville by a representative of the Commission. The principal objections of these subscribers to being put on separate lines may be summed up as follows:

1. Poor service over single village lines due to grounded construction, poor condition of lines and inefficient system of "trouble shooting."

2. 25 cts. charge in certain exchanges for all calls after 9 o'clock, p. m.

3. Friends and relatives served by old rural lines.

On the other hand the company contends that many of the rural lines to which these subscribers connect their phones are already overloaded and that the interests of good service require that they be disconnected from the rural lines and connected to a separate line.

It appears to be a rather general practice of telephone companies throughout the state not to place village subscribers on rural lines. There is no doubt that in the majority of cases the service is, on the whole, improved by this requirement. It is

believed, however, that in the present instance the organization and operation of the company is somewhat responsible for the attitude of this class of subscribers in that it does not in all instances provide reasonable assurance to the subscribers that the lines will be kept in good repair.

The applicant will therefore be authorized to discontinue furnishing service by means of rural lines to subscribers within the village limits of each of its exchanges at such time as it has satisfied the Commission that it stands ready to keep its lines in first class repair.

The exaction of a 25 ct. charge for all calls after 9 o'clock at night for certain exchanges of the system seems exorbitant and will be lowered to 15 cts. per call for this service at these exchanges, provided the general rate schedule as authorized by the Commission is adopted by the company.

Telephone in Depot.

With regard to the refusal of the Chicago & North Western Railway Company to pay for a telephone installed in the depot at Lancaster it would seem that the proper course to follow, if telephone rental is not paid within a reasonable time, would be to take out the telephone. Then the telephone company may install a pay station in the depot as provided in *In re Free and Reduced Rate Telephone Service*, 1908, 2 W. R. C. R. 521, 543. In case a pay station does not seem to answer the requirements the telephone company may then apply to the Commission for an order requiring the railroad company to install adequate telephone facilities.

Toll Rates.

The development of the telephone industry in various parts of the state seems to have brought with it, especially among locally and mutually owned companies, a desire on the part of telephone users for extensive free service, which is probably a natural outgrowth of the telephone business as it has been developed by these companies. The subscriber first has been given unlimited service to other subscribers of the exchange to which he is connected; then the necessity for connection with a neighboring exchange has arisen and he has demanded free connection with that exchange also. Connections have been made

with other neighboring exchanges under the same conditions until a net work of interconnecting lines has been established and often free service can be had about as far as the physical condition of the lines will permit. These connecting lines must be maintained and, at the end of their useful life, rebuilt. In order to do this the owners must, since this class of service is free, derive enough return from the system as a whole for the upkeep of the network of lines. Traffic studies show that there are certain individuals in each of these exchanges who use the interconnecting lines much more than do others. It would seem, therefore, that these individuals should pay more toward the upkeep of connecting lines than those who do not use them. Free lines between central offices are often congested by unnecessary messages to such an extent that more important messages are held up and the service is thus rendered more or less inadequate.

These statements seem especially applicable to the conditions existing on the system of the Farmers' Telephone Company of Beetown. As has been stated elsewhere in this discussion, the applicant operates nine exchanges, all of which are connected by one or more trunk or loaded lines. Service is free between these exchanges as well as to practically all connecting companies except the Wisconsin Telephone Company and the Interstate Telephone Company. Also the traffic studies at Lancaster and Potosi indicate that the present service in general over these free lines is rather congested.

In the light of the above, there seem to be no valid reasons for requiring every subscriber on the system to help to maintain a part of the equipment which he may not use at all. It is also evident that some means should be employed to reduce the congestion upon many of these lines.

A careful study of the situation has been made and as a step in the direction of the curtailment of the unlimited free service over the whole system the following schedule of rates will be authorized:

1. Subscribers connected to lines entering two of the applicant's exchanges shall have unlimited service to both of such exchanges.

2. Subscribers connected to lines entering but one of the applicant's exchanges may have the option of taking unlimited service to the one exchange at a certain rate to be specified later

or may have unlimited service to their choice of one additional exchange of the system, providing this exchange may be called directly from the exchange to which their line is connected, at a somewhat higher rate. This rate will also be specified later.

3. All calls passing between two exchanges of the Farmers' Telephone Company shall be routed over the trunk lines where such lines exist and shall be charged for at the rate of 5 cts. per call, except such calls as are provided for in sec. 2, above.

4. All calls passing between an exchange of the Farmers' Telephone Company and an exchange of a foreign company which has been made a party to this case shall be routed over through lines where such lines exist. The toll charge over these trunk lines shall be 5 cts. per call except Lancaster-Platteville, Lancaster-Fennimore, and Lancaster-Preston calls, provision for which is made elsewhere in this case, and the total revenues from calls of this class going over trunk lines owned entirely by one company shall be divided as follows: 70 per cent to the owner of the line and 30 per cent to the other company connecting with such line.

5. In cases where no trunk connection between exchanges of the Farmers' Telephone Company exists and calls must be routed over loaded lines connecting the two exchanges, a toll charge of 4 cts. per call shall be made except for such calls as are provided for in sec. 2, above.

6. In cases where no trunk connection exists between one of the exchanges of the applicant and a foreign exchange and calls are routed over loaded lines belonging to the applicant or to a foreign company a toll charge of 4 cts. shall be made. The total revenue shall be divided as follows: 30 per cent to each company performing switching service and 40 per cent to the owner of the line.

CHANGES IN ORGANIZATION OF COMPANY.

From the study which has been made of the organization and operation of the applicant company, the following points seem to indicate that a reorganization of the plan of operation of the company is imperative.

1. There is apparently no real head to the organization, that is, no person who has complete authority.

2. Although the by-laws of the company provide that the board of directors shall have general charge of the control and

management of the company, it appears that this board as a unit does not exercise this control to any great extent.

3. On the other hand, each director acting independently is supposed to carry out the will of the members as expressed at the annual meeting.

4. Because only a limited number of subjects can be brought up and discussed thoroughly at this meeting, owing to the comparatively short time that the meeting is in session, each director is thrown upon his own resources to attend to the affairs of the company at his exchange.

5. All officers and managers of the company are allowed to, and it is understood that nearly all do, have a private business to attend to aside from the telephone business.

It is believed that the nature of the organization of the company is responsible in great part for the poor construction of the company's lines, the poor condition of its lines at the present time and the comparatively poor service which the company is rendering the public. Further, it is believed that a general reorganization of the company is the best means of obtaining adequate telephone service to the subscribers of the company.

Alterations in the articles of organization and the by-laws which would effect the following changes are suggested:

1. A general manager shall be appointed by the board of directors and shall, subject to the by-laws and articles of organization of the company and the board of directors as a unit, have complete charge of the affairs of the company.

2. A president, a vice president, a secretary-treasurer and four directors shall be elected by the stockholders at their annual meeting. The president, the vice president, the secretary and treasurer and four directors shall constitute a board of directors for the company which shall have, as a unit, general charge of the affairs of the company.

3. The general manager may appoint, subject to the approval of the board of directors, such assistants at the various exchanges as he may see fit, providing not more than two of these assistants shall be members of the board of directors.

4. The general manager shall not also be a member of the board of directors.

5. The general manager shall be required to devote all his time to the company's work.

6. A competent bookkeeper shall be engaged, who shall keep the books of the company in the manner prescribed by the Commission.

Ownership of Telephones.

Sec. 1797m—90, ch. 499, laws of 1907, ch. 213, laws of 1909, provides that all telephone companies in the state of Wisconsin must own the telephone instruments connected to their lines. Investigation shows that the applicant owns only 82 telephones, while 1,008 telephones are owned by individuals. The Commission will therefore require that the applicant take over and maintain all telephone instruments connected directly to its lines. In the revised income account allowance will be made for depreciation and maintenance of this extra investment. An estimate of this investment is as follows:

1,008 telephone instruments at $6, $6,048.

Revised Income Account.

The various changes in the plans of operation of the applicant company which will be authorized will alter the income account to a certain extent. The total expenses for the year ending Jan. 1, 1913, were $10,480.72. Additions which will be made to these expenses, when the authorized changes in the company are put into effect, are estimated as follows:

1. Extra cost of general manager plus expense incident to better maintenance of line	$1,500.00
2. Part time bookkeeper plus additional commercial expense incident to the putting into effect of a toll rate per call between central offices	460.00
3. Depreciation on $6,048 of additional investment in telephones to be purchased from individual owners at 6.5 per cent	393.00
4. Maintenance and operation of above telephones, 1,008 at $1.10	1,108.80
5. Additional cost for central office labor incident to the establishment of the toll rate between central offices	400.00
6. Depreciation on increased investment incident to rearranging of party line service and other construction	150.00
Total of above items	$4,011.80
Expense for year ending Jan. 1, 1913	10,480.72
Total	$14,492.52
Interest at 6 per cent on $32,000	1,920.00
Total	$16,412.52

The $32,000 shown in the above table represents, it would seem, a fair amount upon which the company should be allowed a return. It consists of the present value of the property as given in the engineers' valuation plus the increased investment in telephones and other equipment incident to the bettering of the service and such other elements of value as should be considered.

Part of the above additional expense is apportionable to cost of switching service at the Lancaster and Potosi exchanges. The items of which a part is apportionable to switching service are No. 1—$1,500, No. 2—$460, and No. 5—$400, making a total of $2,360.

In Table X this amount has been apportioned to the Lancaster and Potosi exchanges and reapportioned to switching service for foreign lines. This table shows the total expense of switching for lines not connected to a second exchange to be about $2.25 per phone per year, and for lines connected to a second exchange about $1.25 per phone per year for each of the above mentioned exchanges. That there should be in this case a difference in the charge for these two classes of service is quite apparent from the traffic study which shows that the per cent of operator's time per telephone for foreign lines connecting with a second exchange is, for both Lancaster and Potosi, between 60 and 65 per cent of the per cent of operator's time per telephone for foreign lines not connecting with a foreign exchange. The above rates for switching service seem equitable and will be authorized, provided the full schedule of rates as proposed by the Commission is adopted.

TABLE X.

APPORTIONMENT OF ADDITIONAL EXPENSE, INCIDENT TO BETTERMENT OF SERVICE, TO COST OF SWITCHING SERVICE.

	Total expense.	Total expense to foreign lines.	Expense to subscribers on foreign lines not connected with 2nd exchange.	Expense to subscribers on foreign lines connecting with 2nd exchange.	Expense to 2nd exchange.
LANCASTER EXCHANGE.					
Present expense	$2,644 23	$311 78	$98 46	$173 06	$40 55
Additional expense	861 00	101 00	39 20	56 40	13 20
Total	$3,505 23	$412 78	$137 66	$229 46	$53 75
Total phones		238	61	177	
Expense per phone		$1 73	$2 26	$1 30	
POTOSI EXCHANGE.					
Present expense	$788 00	$122 13	$83 98	$23 91	$14 28
Additional expense	272 00	42 10	29 00	8 25	4 78
Total	$1,060 00	$164 23	$112 98	$32 16	$19 06
Total phones		83	57	26	
Expense per phone		$1 98	$2 28	$1 24	

An equitable rate schedule must now be formed which will yield a return to the company approximately equal to the total expense as given in the above revised expense account.

It is difficult to foretell just what effect the establishing of a toll charge per call for part of the service between central offices will have upon this particular traffic, inasmuch as conditions differ widely for various exchanges and localities. Data at hand, however, indicate that, on the average, were a toll charge placed on every call passing between exchanges, this traffic would be in the neighborhood of 25 per cent of the present traffic. Using 25 per cent of the present traffic as a basis for computing traffic between exchanges with a toll charge for every call in effect and assuming that this class of service for the whole system will compare favorably with the traffic of the Lancaster and Potosi exchanges, a figure has been arrived at which indicates that the return from all toll traffic would be in the neighborhood of $3,000 per year.

The proposed schedule, however, as it will provide for a flat rate which will include certain free toll service, will probably reduce the return from this source by a considerable amount. We do not know just what the reduction will be, but it is be-

lieved that the total toll revenue under the proposed schedule will be reduced to a figure not far from $2,000. This figure will be used in the revised expense account.

Another factor to be considered in the forming of an equitable rate schedule is the relation between the rates to be paid by rural subscribers connected to loaded lines running between two exchanges when there is a trunk line between those exchanges and the rate for the same class of subscribers when there is no trunk line between the exchanges. In the first case the service over the loaded line will not be interfered with by calls passing between central offices over these loaded lines, as all calls will be required to be put through over the trunk lines. In the second instance calls passing between the two central offices will have to be put through over the loaded lines and will cause more or less interference with the use of those lines. It therefore seems reasonable and just to charge a somewhat higher rate per telephone for the first mentioned class of subscribers than for the second.

In the following schedule of rates the above mentioned points have been taken into consideration. The situation in general has been carefully studied and it is believed that the schedule as outlined will fairly adequately meet the needs of the applicant.

121	[1]Business telephones electing No. 1 class of service at $14.00 Business telephones electing No. 2 class of service at $13.00	$1,663.00
363	Residence phones electing No. 1 class of service at $12.00 Residence phones electing No. 2 class of service at $11.00	3,024.00
376	Rural telephones on lines connecting with but one exchange and electing No. 1 class of service at $13.00 Rural telephones on lines connecting with but one exchange and electing No. 2 class of service at $12.00	4,700.00
164	Rural telephones on lines connecting with two of applicant's exchanges between which exchanges there are one or more trunk lines, at $13.00....	2,132.00

[1] NOTE: No. 1 class of service shall mean in this connection that subscribers electing such service shall be entitled to free service to any one exchange of the applicant, in addition to that to which the subscriber is connected, providing this exchange may be called directly from the exchange to which subscriber's line connects.

No. 2 class of service shall mean in this connection that subscribers electing such service shall have free service only to the exchange to which he is directly connected.

	Brought forward	$11,519.00
188	Rural telephones on lines connected with two of applicant's exchanges between which exchanges there is no trunk line, at $12.00	2,256.00
	Extension and part time phones	110.00
	Switching Service:	
203	Foreign telephones on lines connected with a second exchange at $1.25	253.75
118	Foreign telephones on lines not connected with second exchange at $2.25	265.50
	Estimated toll and pay station earnings	2,000.00
	Total	$16,404.25

IT IS THEREFORE ORDERED, That the Farmers' Telephone Company of Beetown be authorized to suspend the rates for telephone service now in effect and substitute therefor the following schedule:

[1]Business telephones electing No. 1 class of service	$14.00	per	year
" " " " 2 " "	13.00	"	"
Residence phones electing No. 1 class of service...	12.00	"	"
" " " " 2 " " ...	11.00	"	"
Rural telephones on lines connecting with but one exchange and electing No. 1 class of service....	13.00	"	"
Rural telephones on lines connecting with but one exchange and electing No. 2 class of service....	12.00	"	"
Rural telephones on lines connecting with two of applicant's exchanges between which exchanges there are one or more trunk lines	12.00	"	"
Rural telephones on lines connected to two of applicant's exchanges between which exchanges there is no trunk line	12.00	"	"
Extension phone (additional)	.50	"	month
" bell "	.15	"	"

A penalty of 10 cts. per month for non-payment of telephone rental within 30 days of the time when due is authorized.

Rates for switching service:

1. Rural telephones on foreign lines which are connected with a second exchange $1.25
2. Rural telephones on foreign lines which are not connected with a second exchange 2.25

Bills for switching service may be rendered directly to the companies owning the line or lines for which switching service is performed.

Toll Rates.

1. All calls passing between two exchanges of the Farmers' Telephone Company of Beetown shall be routed over the trunk lines where such lines exist and shall be charged for at the rate of 5 cts. per call, except as provided in the above mentioned No. 1 class of service.

2. All calls passing between an exchange of the Farmers' Telephone Company of Beetown and an exchange of any foreign telephone company which has been made a party to this case shall

[1] See note on page 583.

be routed over trunk lines where such lines exist. A toll charge of 5 cts. per call shall be made for service over these trunk lines, except for calls between Lancaster and Platteville, Lancaster and Fennimore, and Lancaster and Preston, for which calls provision is made elsewhere in this schedule, and the revenue derived therefrom shall be divided, in case one company owns the entire line, 70 per cent to the owner of the line and 30 per cent to the other company connecting with such line.

3. In cases where no trunk lines exist between exchanges of the Farmers' Telephone Company of Beetown and calls must be routed over loaded lines between these exchanges, a charge of 4 cts. per call shall be made, except as provided by the No. 1 class of service.

4. In cases where no trunk lines exist between one of the exchanges of the Farmers' Telephone Company of Beetown and a foreign exchange and calls must be routed over loaded rural lines belonging to the Farmers' Telephone Company or to the foreign company, a toll charge of 4 cts. per call shall be made and the total revenue shall be apportioned as follows: 30 per cent to each company performing switching service; 40 per cent to the owner of the line.

5. The applicant is further authorized to suspend the present free service over its trunk lines from Lancaster to Fennimore and substitute therefor the following schedule of toll rates, with a division of revenue as indicated:

Calls between	Charge per call.	Division of Revenue.		
		Per cent to Farmers' Tel. Co.	Per cent to Fennimore Mutual Tel. Co.	Per cent to Annaton & Preston Tel. Co.
Lancaster & Fennimore	7 cts.	70	30	.....
" " Stitzer	5 "	60	.....	40
" " Preston	7 "	65	.....	35
Fennimore & Stitzer	5 "	20	40	40
" " Preston	5 "	10	40	50
Stitzer & Preston	5 "	10	.....	90

Providing accurate records of calls over these lines are kept by all companies concerned for six months following the adoption of this rate schedule, the above division of toll may be considerably simplified.

It is recommended that the Annaton and Preston Telephone Company cut in two and terminate at Preston its full metallic line which is connected onto the so-called "Fennimore lines" and now extends through Preston to Montfort.

IT IS FURTHER ORDERED, That, provided the above authorized schedule of toll rates is placed in effect on the trunk lines between Lancaster and Fennimore, the Annaton and Preston Telephone Company may, at its option, connect its Stitzer exchange to the grounded trunk line of the Farmers' Telephone Company running from Lancaster to Fennimore.

IT IS FURTHER ORDERED, That the Farmers' Telephone Company proceed to make full metallic its half of the trunk line between Platteville and Lancaster, construction on same to begin as soon as the Platteville, Rewey and Ellenboro Telephone Company shall have agreed to build its half of the line, and upon the completion of the work of making this line full metallic, the present free service shall be suspended and a toll charge of 7 cts. per call substituted. The total amount of revenue from this line shall be divided equally between the two companies unless they shall agree to some other basis of division.

IT IS FURTHER ORDERED, That the applicant be and hereby is authorized upon the adoption of this schedule to place on separate lines all telephones which are located within the city or village limits and are now connected to rural lines running directly into an exchange belonging entirely to the applicant.

IT IS FURTHER ORDERED, That the charge for calls after 9 p. m. at those exchanges where additional charges are now made for such service shall not exceed 15 cts. per call.

IT IS FURTHER ORDERED, That the above rate schedule may be adopted at such time as such changes in management and organization, including changes in accounting methods and procedure, are made as meet the requirements of the Commission, but no part of the schedule shall be adopted unless the entire schedule is adopted.

If the above rate schedule is not adopted as outlined, the rate for switching service for foreign lines shall be as follows:

1. Telephones on lines connecting with a second exchange, $1.00 per phone per year.

2. Telephones on lines not connecting with a second exchange, $1.50 per phone per year.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF THE USE OF SILENT NUMBERS BY THE WISCONSIN TELEPHONE COMPANY IN THE CITY OF MILWAUKEE.

Submitted July 21, 1913. Decided Jan. 9, 1914.

The Commission, on its own motion, investigated the use of the so-called "silent number phones" by the Wis. Tel. Co. in Milwaukee. The numbers of such telephones are not published in the directory and the usual practice of the company is not to connect other parties with the silent number telephone unless the subscriber having the telephone directs the operator to make the connection. It is alleged in the informal complaint which led to the present investigation that this practice constitutes an unjust discrimination against subscribers who are thus refused connection.

The contention of the complainant that his contract with the telephone company entitles him to connection with every telephone which can be reached through the Milwaukee exchange cannot be sustained. The contract in question provides that such connection shall be given subject to the rules and regulations of the telephone company and provision is made in the regulations of the company for the silent number service.

Sec. 1791—a of the statutes, which makes it the duty of every telephone company to connect the telephone of any subscriber, upon request of that subscriber, with the telephone of any other subscriber, without regard to the character of the messages to be transmitted, provided they are not obscene or profane, is in conflict with the Public Utilities Law, which was enacted subsequently, and must therefore be regarded as having been repealed by the latter which merely provides that "every public utility is required to furnish reasonably adequate service and facilities". Sec. 1797m—3.

Held: The maintenance of silent number service cannot be regarded as an unjust discrimination on the part of the telephone company and there is no other ground upon which the practice can be condemned. It is true that there is an element of discrimination in the action of the individual who has the silent number service in giving his number to his friends or acquaintances and withholding it from the general public, but this is a matter which is left to the discretion of the individual.

Mr. B. O. Fox, of the city of Milwaukee, complained to the Commission of the rules and regulations of the Wisconsin Telephone Company permitting subscribers to have telephones without publishing the number of the telephones in the telephone directory. Such telephones are known as "silent number phones."

After a preliminary investigation of the complaint, the Com-

mission deemed it of sufficient general importance to order an investigation upon its own motion. The matter came on for hearing on July 21, 1913. The complainant was represented by *Charles E. Hammersley,* his attorney, and the respondent by *H. O. Seymour* and *J. F. Krizek.*

It appears from the testimony that there are approximately 143 silent number telephones in use in the city of Milwaukee. The practice of the company with regard to these silent number telephones depends to some extent upon the wishes of the subscriber taking this class of service. Generally the practice is for the operator, in case a party having a silent number telephone is called for by name, to inform the party calling that there is no telephone in the name of the party called. As far as the records in the possession of the regular operating force are concerned, this is a correct statement, because this force has no record of the silent number telephones. The chief operator, however, has a record of the numbers of all these silent number telephones.

If the party calling, after having been notified by the operator that the party called has no telephone, calls for the chief operator, the chief operator informs him that the telephone called has a silent number, and that the party having the telephone does not wish to be called. If the party calling states that the message is very important, the chief operator will get into communication with the silent number telephone, and find out if the party called wishes to talk. If the party called expresses his willingness to talk, the connection is made. If not, the connection is refused. In some cases, however, persons having the silent number service have expressed a wish not to be called under any conditions by anyone who does not know the number of their telephone. In such cases the chief operator, in case the matter comes before her, informs the party calling that the connection can not be made under any circumstances.

The silent number telephone service appears to be in no way different from the regular telephone service except that the telephone is not listed in the directory, and that the telephone company will not give out the number to any one desiring it. It is the contention of the complainant that this class of service constitutes an unjust discrimination. He contends that his contract with the company gives him the right to connect with every telephone which can be reached through the Milwaukee exchange.

The contract referred to, however, contains a provision that the subscriber shall have such connection subject to the rules and regulations of the telephone company which, in turn, make provision for the silent number service.

The question then appears to be one of the reasonableness of the rules and regulations of the company rather than a question involving the contract between the company and the subscribers. This service is furnished to a class of people who do not wish to be called except by certain persons to whom they give their telephone number. If the party having the silent number service has given his number to only a few persons whom he is willing to have able to call him, and has thereby expressed his wish that no one else upon the system shall be able to call him, it does not seem that the telephone company is discriminating in letting him have this service.

The objection, if at all valid, must rest upon other grounds than that of discrimination of the company. With a better show of reason it has been contended that such service transgresses the fundamental relation existing between the patrons of the telephone exchange. Such an exchange renders a community service, and its value depends upon the number and coöperation of its patrons. Also the efficiency of the service depends as much upon the users of the telephones as upon the company. Under the circumstances it is claimed that a special service which enables the subscriber to obtain connection with the telephones of all his co-subscribers, and to deny his co-subscribers connection with his telephone is not consistent either with the public duty of the utility or the duty assumed by the subscriber on becoming a member of the exchange. While it may be conceded that there is some merit in this contention, and that it is at least not without a theoretical basis, yet as a practical question we fail to see how such duty of a subscriber, if at all existing, can be enforced, or how any subscriber can be prejudiced by the self-imposed limitation of another subscriber's service. Whether in the presence of each other or at the ends of a telephone line, men may refuse to speak to each other. Because one does not wish to speak with a particular person by telephone does not seem to be a valid reason for refusing him the privilege of thus speaking to those with whom he does desire to communicate. One has no right to impose a conversation upon another against his will, and no one

should be penalized because of his refusal to submit to such an imposition.

There may also be a personal side to the question, and there may be cases where people are in a public calling where they should permit themselves to be reached, but if they do not choose to permit themselves to be called by any subscriber of the exchange, it can hardly be urged that the telephone company is discriminating. If those parties having silent number service should disconnect their telephones entirely, as some of them probably would do if they had to permit anyone to call their telephones, the general body of telephone subscribers would be in the same position relative to calling these subscribers as they were when the silent number telephone was in use. If a non-subscriber will take telephone service only on condition that he has a silent number, it is hard to see where this discriminates against the general body of subscribers. The only possible discrimination arises from an act of the subscriber himself in giving his number to certain parties and withholding it from the general body of telephone users, but it is hardly to be charged that this is a discrimination for which the telephone company should be held responsible when the telephone company furnishes silent number service only at the express demand of the subscriber.

If there is a discrimination between the party who is able to call the silent number telephone and the party who is not able to call it, it is almost as much a discrimination due to the subscriber having the silent number telephone as would be the discrimination which would arise if all the telephone users could call that subscriber's telephone and he should then refuse to talk to those to whom he did not wish to speak. Practically, the subscriber having silent number service makes the telephone company his agent to tell other telephone subscribers that he does not wish to be called by them. As far as the service which these other subscribers are able to receive is concerned, the situation is practically the same as if the telephone company should ring the telephone desired and that subscriber should then refuse to talk. The only advantage which the calling subscriber would have in this latter case would be the satisfaction of placing the responsibility for refusal to talk a little more directly upon the party called.

It is contended in opposition to the practice of furnishing the silent number telephone that a party connecting to a telephone

system should become part of that system in exactly the same way as every other party does. This does not seem entirely logical. Those persons whose names appear in the telephone directory thereby advertise their willingness to be called on the telephone. The failure of their names to appear in the directory would probably cause them as much inconvenience as would be caused by the insertion of the silent number telephones in the directory to the parties who have such telephones. The annoyance connected with the regular telephone service might easily become so great as to practically compel patrons to discontinue service entirely. Because a patron wishes to be free from the annoyance which would result from permitting anyone to call his number, it does not necessarily follow that he should be deprived of telephone service altogether. Yet if the silent number practice is abolished, he will have three possible courses to follow: first, discontinue service entirely; second, take the regular class of service and permit anyone wishing to do so to call his telephone; third, throttle the bell on the telephone or locate the telephone in such a way that *no* incoming call can be received. The right of the subscriber to have his telephone so located that he could not hear the bell could not well be denied by other subscribers. If, instead of changing the location of the telephone, he instructs the telephone company not to call that telephone, the situation is not materially different, with the single exception that parties to whom he gives the number are able to call him, which they would not be able to do if the bell were throttled or the telephone so located that no ring could be heard.

The whole question, then, appears to be one of whether the action of the individual who has the silent number service in giving his number to his friends or acquaintances and withholding it from the general public, causes a discrimination by reason of which the telephone company should be ordered to refuse the silent number service. There is some element of discrimination here, but it seems to be rather a case in which the individual may determine for himself the parties whom he wishes to have call him, just as he would determine for himself with what parties he would speak if everyone could call him. The telephone company acts as his agent in carrying out his wishes, and in so doing, it does not deprive other subscribers of any service of which they would not be deprived if the individual having the silent number service were to discontinue the tele-

phone service entirely, or were to so locate his telephone that he would not get any incoming calls.

It is further contended by the complainant that sec. 1791—a of the statutes imposes upon the company the duty of furnishing connection with the telephone of every person, firm or corporation having a telephone connected with the exchange. The statute reads as follows:

"It shall be the duty of every telephone company, or person, firm or corporation engaged in the business of supplying the public with telephones and telephonic service or operating a telephone exchange to receive and transmit without discrimination messages from and for any other company, person or persons, upon tender or payment of the usual or customary charges therefor; and upon such payment or tender of the usual or customary rental sum it shall be the duty of every telephone company, person, firm or corporation engaged in the business of leasing telephones to the public or supplying with telephones and telephonic service or operating a telephone exchange to furnish, without unreasonable delay or without discrimination, and without any further or additional charge to the person, firm or corporation applying for the same, including all telegraph companies or other telephone companies, a telephone or telephones with all the proper or necessary fixtures, as well as connection with the central office or telephone exchange, if desired, and to connect the telephone of such person, firm or corporation with the telephone of any other person, firm or corporation having a connection with the same or a connecting exchange or central office, whenever requested to do so, without regard to the character of the messages to be transmitted, provided they are not obscene or profane; and every person or corporation neglecting or refusing to comply with any of the provisions of this section shall forfeit not less than twenty-five dollars nor more than one hundred dollars for each and every day such neglect or refusal shall continue, one-half of which sum shall go to the use of the person or corporation prosecuting therefor. (1882 c. 196; Ann. Stats. 1889 s. 1791a; 1893 c. 236; Stats. 1898 s. 1791a.)"

This statute is probably little more than declaratory of the common law as far as it defines the duty of a telephone company. This statute is in conflict with the Public Utilities Act passed subsequently, and therefore must be regarded as having been repealed by such act. Sec. 1797m—3 of the Public Utilities Act provides that:

"* * * Every public utility is required to furnish reasonably adequate service and facilities. The charge made by any

public utility * * * for any telephone message conveyed or for any service rendered or to be rendered in connection therewith shall be reasonable and just, and every unjust or unreasonable charge for such service is prohibited and declared unlawful."

It is the duty of the Commission to ascertain from all the facts and circumstances presented in any case the reasonableness of any rule or regulation respecting service, and if it shall determine that such rule or regulation is unreasonable it shall change the same or substitute a reasonable rule or regulation in place thereof. Under the circumstances we do not feel that we are at all constrained by a previous statute, even if the same should be applicable to the question in hand, which we seriously doubt, in rendering a judgment which upon the facts presented seems to us just and equitable.

For the reasons given we are unable to find any ground upon which the practice of the company in furnishing silent number telephone service can be condemned.

HEINEMAN LUMBER COMPANY
vs.
WELLS FARGO EXPRESS COMPANY.

Submitted Nov. 11, 1913. Decided Jan. 14, 1914.

The petitioner alleges that the respondent unjustly discriminates against it by refusing to deliver express to it at its offices which are located a few hundred feet beyond the corporate limits of the city of Merrill. The respondent delivers express to any point within the city limits, although these limits extend beyond the free delivery district of the United States post-office department which is fixed by sec. 1798 of the statutes as the minimum area in which express companies must call for and deliver express, but does not extend this service to any person or corporation located outside the city limits.

Held: There must be some limits to the area within which express companies may be required to deliver express and the boundaries of the municipality are most satisfactory for this purpose. *Strauss v. American Exp. Co.* 1909, 3 W. R. C. R. 556. The complaint is dismissed.

The petitioner, a corporation engaged in the lumber business at Merrill, in Lincoln county, alleges in substance that the respondent, the Wells Fargo Express Company, delivers express within five hundred feet of the offices of the petitioner, but refuses to extend its free delivery service to the petitioner's offices. The Commission is therefore asked to require the respondent to deliver express at the offices of the petitioner.

The respondent answers in substance that it calls for and delivers express without charge to and from all points within the corporate limits of the city of Merrill, and to and from all points within the free delivery limits established in the city of Merrill by the post-office department; that the petitioner's offices are located beyond the corporate limits of the city; that pursuant to an agreement with the petitioner it now delivers express for the petitioner at the offices of another corporation located near the corporate limits of the city; that the cost of delivering express matter to the petitioner as prayed for would be greater than the receipts therefrom; that any requirement that the respondent furnish free delivery to the petitioner would be un-

just and discriminatory and that the service maintained by the respondent in the city of Merrill is reasonably adequate.

A hearing was held on November 11, 1913, at the Capitol in Madison. *Miller, Mack & Fairchild,* by *W. F. Adams,* appeared for the respondent. The petitioner was not represented.

The facts in the case, as developed by the testimony and as stipulated by counsel subsequent to the hearing, are as follows. The corporate limits of the city of Merrill extend about two miles from north to south and about four miles from east to west. The office of the Wells Fargo Express Company is situated in the southeast part of the city. The petitioner's offices are located between 300 and 400 feet north of the corporate limits of the city and 4,700 feet distant from the respondent's office. The respondent now delivers express for the petitioner at the offices of the Grandfather Falls Paper Company which is located within the city limits about 1,000 feet distant from the petitioner's offices. Two hundred and ninety feet north of this point is a bridge over the Prairie river 560 feet long, the petitioner's offices being about 150 feet beyond the north end of the bridge. The respondent calls for and delivers express to or from any point within the corporate limits of the city, which enclose an area considerably greater than the free delivery district established by the United States post-office department. Service of this sort is not rendered to any person or corporation beyond the city limits. The respondent submitted a statement of the express business handled by it for the petitioner for seven months (April to October 1913 inclusive) as follows:

Period.	Forwarded.				Received.			
	Intrastate		Interstate.		Intrastate.		Interstate.	
	Shipments.	Charges.	Shipments.	Charges.	Shipments.	Charges.	Shipments.	Charges.
April, May and June	3	$1.30	2	$1.05	13	$17.21	35	$54.70
July	2	.65	2	1.50	16	35.74	14	14.73
August	2	.50	.....	.....	5	5.76	5	5.35
September	.....	.....	.....	.....	5	3.15	3	3.12
October	.....	.....	2	1.00	4	5.22	14	27.68
Total	7	$2.45	6	$3.55	43	$67.08	71	$105.58

The respondent's superintendent testified that it now owns but one delivery wagon in Merrill, and that a slight increase in the

work of delivering would necessitate the employment of draymen at an additional expense.

The question of free delivery limits for express companies was exhaustively discussed by this Commission in *Strauss v. American Exp. Co.* 1909, 3 W. R. C. R. 556. In that case the corporate limits of Milwaukee were fixed as the limits of free delivery for express in that city. The legislature of 1911 enacted a law (ch. 416, laws of 1911, sec. 1798m of the statutes) which requires all express companies to call for and deliver express to and from any point within the free delivery limits fixed by the post-office department in any city. In the present case the respondent has adopted the corporate limits of the city as the limits of its express delivery, and thus the service is somewhat in excess of the minimum prescribed by statute.

The petitioner claims that it is discriminated against in that the distance from the respondent's office to the petitioner's office is less than the distance from the respondent's office to certain sections of the city. Considerations of length of haul are obviously given little weight in the statute above referred to. The free delivery limits of the postal service in Merrill, for example, are even more irregular than the corporate limits of the city, and in no sense conform to the geographical equality of distance from the express office insisted upon by the petitioner. There must be some limits to the service in question, and these limits, in the very nature of the case, must be somewhat arbitrary, and must impose a seeming hardship upon those individuals whose business or residences are located just beyond the limits. The direct benefits of a city do not extend beyond its boundaries, —nor do the costs of maintaining its government fall upon business located outside of the city. The boundaries of the municipality are therefore the most satisfactory limits of express delivery service. This view was expressed in *Strauss v. American Exp. Co.* referred to above, as follows:

"While it is true that such inequalities of service cannot be entirely eliminated under all circumstances, yet they can be justified, according to our view of the matter, only where natural limits, such as the boundary lines of municipalities, are adopted as delivery service limits."

IT IS THEREFORE ORDERED, That the complaint herein be and the same is hereby dismissed.

EAGLE TELEPHONE COMPANY

vs.

STATE LONG DISTANCE TELEPHONE COMPANY,
WISCONSIN TELEPHONE COMPANY.

Submitted July 22, 1913. Decided Jan. 14, 1914.

The petitioner alleges that the physical connection maintained prior to July 1, 1913, between its telephone system in the vicinity of Lauderdale Lake and the Elkhorn exchange of the State Long Distance Tel. Co. is required by public convenience and necessity and asks that the Commission require physical connection to be restored and prescribe the conditions under which such connection shall be made. Both the petitioner and the State Long Distance Tel. Co. are sub-licensees of the Wis. Tel. Co., with which they have connecting agreements, and the Wis. Tel. Co. is therefore made a party to the present proceeding. The respondent State Long Distance Tel. Co. denies that the physical connection desired by the petitioner is required by public convenience and necessity, alleges that public convenience and necessity will be best served by allowing the said respondent to extend its lines so that telephone subscribers in the vicinity of Lauderdale Lake may be directly connected with its exchange at Elkhorn and asks that it be permitted to make such extensions of its lines. The said respondent further asks that if a physical connection is ordered, the point of connection be made where the two systems come together midway between the village of East Troy and the city of Elkhorn and that the terms and conditions, the rate of toll and the division of the revenue from the tolls be fixed in the order. The physical connection formerly maintained was severed on July 1, 1913, the State Long Distance Tel. Co. alleging that the petitioner had violated the terms of the contract for physical connection by connecting the subscribers served under the contract with the petitioner's La Grange exchange. Since July 1, 1913, these subscribers have been obliged to reach Elkhorn indirectly through the La Grange central, which is merely a rural exchange, and over a toll line owned in part by the Eagle Tel. Co. and in part by the Wis. Tel. Co., and complaint is made of the service rendered. The subscribers at Lauderdale Lake, who are for the most part summer residents from Chicago, use their telephones chiefly for communication with Elkhorn and Chicago, and receive slight benefit, if any, from their connection with La Grange. Messages for Chicago sent through the La Grange central go by a less direct route than those sent by way of Elkhorn.

There can be no doubt that the extension which the State Long Distance Tel. Co. proposes to make of its lines would result in more convenient service for the subscribers affected than would the physical connection desired by the petitioner or the toll line routing used at present. It is necessary, however,

under ch. 610, laws of 1913, before authorizing the extension to determine whether the existing service is adequate, and if not, whether it can be made adequate by establishing physical connection or by other means.

Held: The subscribers of the petitioner at Lauderdale Lake cannot be adequately served by the petitioner through its La Grange exchange, either under the existing arrangements or with a physical connection between the two companies, and it is regarded as desirable, in the interest of good telephone service, that the lines of the State Long Distance Tel. Co. be extended for a distance of about one and one-half miles north of its present terminus at the Sterlingworth Hotel, connecting with such subscribers as desire the direct service of the Elkhorn exchange.

The petition is dismissed.

The Eagle Telephone Company, a corporation operating a system of telephone lines in Walworth and Waukesha counties and having its principal office at Eagle, Wis., alleges that on April 21, 1911, it entered into a contract with the respondent, the State Long Distance Telephone Company, under the terms of which the petitioner allowed to connect twenty-four of its subscribers in the vicinity of Lauderdale Lake with the Elkhorn exchange of the State Long Distance Telephone Company, subject to certain conditions set forth, and that notice was served upon petitioner on May 21, 1913, by the said respondent that the contract was to be terminated on July 1, 1913. It further alleges that public convenience and necessity require physical connections between the petitioner's telephone system and that of the State Long Distance Telephone Company at Elkhorn and the toll lines operated by each of the companies. The petitioner states that both the State Long Distance Telephone Company and the Eagle Telephone Company are sub-licensees of the Wisconsin Telephone Company, having connecting agreements with it, and that for this reason the latter company is made a party to this proceeding. The Commission is therefore asked to require the physical connection of the telephone systems in question, and to prescribe the conditions of such connection.

The respondent State Long Distance Telephone Company, in its answer, alleges in substance that on May 17, 1913, prior to its termination of the contract between it and the Eagle Telephone Company, the latter company, in violation of the contract, so arranged its system as to take all of its subscribers connected under the contract into its La Grange central. It further alleges that public convenience and necessity do not require the physical connections prayed for by the petitioner, but that, on

the contrary, the public convenience and necessity will be best served by allowing the respondent telephone company to extend its lines so that telephone subscribers in the vicinity of Lauderdale Lake may be directly connected with its exchange at Elkhorn. It therefore asks that the State Long Distance Telephone Company be allowed to construct and maintain telephone lines in the territory lying north of the Sterlingworth property and adjacent to Lauderdale Lake for the purpose of furnishing telephone service to such persons residing in said territory as desire to have Elkhorn for a central. It further asks that if a physical connection should be ordered, the point of connection be made where the two systems come together midway between the village of East Troy and the city of Elkhorn, and that the terms and conditions, the rate of toll and the division thereof be fixed in the order.

The matter was heard at Madison, on July 22, 1913. *E. D. Walsh* appeared for the petitioner, *Page & Ferris,* by *Jay W. Page,* for the State Long Distance Telephone Company, and *J. F. Krizek* for the Wisconsin Telephone Company.

At the hearing it was stipulated by counsel for all of the parties in interest that the question of the public convenience and necessity of the of the proposed extension of the lines of the State Long Distance Telephone Company should be placed before the Commission in the present proceeding, all notice of hearing and other legal requirements precedent to such present consideration being waived and the existing arrangements to be maintained until a decision is rendered.

It appears from the testimony that the service rendered at Lauderdale Lake under the terms of the contract referred to in the pleadings was entirely satisfactory to the subscribers affected thereby, and a restoration of those conditions is apparently what the subscribers desire. However, both companies objected at the hearing to entering again into a similar contract. In view of the fact that the former arrangement under the contract is not likely to be restored by the voluntary action of the telephone companies, the question for decision is whether public convenience and necessity require the extension of the respondent's telephone lines into territory now occupied by the Eagle Telephone Company, or, if such an extension is not justified, whether a physical connection between the systems of the two companies is necessary.

The testimony shows that under the operation of the contract referred to in the petition about 20 subscribers of the Eagle Telephone Company, residing near Lauderdale Lake, were given direct connection with the Elkhorn exchange of the State Long Distance Telephone Company by means of three metallic circuits, which were maintained by the Eagle Telephone company to the limits of the city of Elkhorn, and from that point to its exchange by the State Long Distance Telephone Company. For this service, as a rental or switching charge, the petitioner paid to the connecting company $3 per year for each subscriber. Prior to notice of the termination of this contract by the State Long Distance Telephone Company the petitioner connected the subscribers served under this contract with its La Grange exchange. Physical connection between the lines of the two companies was severed on July 1, 1913. Since that date these subscribers have been obliged to reach Elkhorn indirectly through the La Grange central and over a toll line owned in part by the Eagle Telephone Company and in part by the Wisconsin Telephone Company. The toll over this line is 15 cts. per call of two minutes, which is divided equally between the two companies. Pending the conclusion of this proceeding the Eagle Telephone Company has assumed the toll costs of service between the subscribers at Lauderdale Lake and Elkhorn. To talk to a party in Elkhorn under the present arrangements the subscriber calls La Grange and gives the name of the party with whom he wishes to be connected. The operator at La Grange then calls the Elkhorn operator who puts the party on the line after which the La Grange operator connects with the subscriber who made the call. Under the former arrangement these subscribers called the Elkhorn exchange directly.

The Elkhorn exchange is in operation night and day and the service rendered is in conformity with the usual city standards. The La Grange exchange, on the contrary, is a typical rural exchange which is closed for a part of the night and at which the operator has duties other than those of the switchboard. Considerable complaint was made by witnesses that the service of the La Grange exchange is poorer than the usual rural service.

It is clear from the testimony that the subscribers at Lauderdale Lake, who are for the most part summer residents having homes in Chicago, use their telephones chiefly for communication with Elkhorn and Chicago. They trade at Elkhorn and use the

railway facilities there. On the other hand it appears that these subscribers receive but slight benefit, if any, from their connection with the La Grange exchange. There is no village at La Grange and the exchange serves only the residents of a rural district. Messages for Chicago through the La Grange central go by the way of Eagle and Milwaukee, which is less direct than the connections afforded at Elkhorn.

There can be no doubt that the individuals living in the territory into which the State Long Distance Telephone Company desires to extend its lines could, by virtue of their personal and business connections at Elkhorn and Chicago, be more conveniently served with the proposed extension than by physical connection of the two systems, or by the use of a toll line as at present. However, the proposed extension might result in a duplication of lines, and would probably deprive the petitioner of a large proportion of its subscribers in this district, thereby impairing the earning power of its equipment. In previous decisions the Commission has held that it is the intent of ch. 610 of the laws of 1913 that no such duplication should be allowed, unless it is clearly shown that the company already rendering service in the district in question is unable to render adequate service at reasonable rates. (*In re Proposed Extension of the Line of the Clinton Tel. Co.* 1913, 13 W. R. C. R. 166, and *In re Proposed Extension of the Line of the Ettrick Tel. Co.* 1913, 12 W. R. C. R. 744, 746. It is therefore necessary to determine whether the existing service is adequate, and if not, whether it is possible to render it adequate by establishing physical connection or by other means.

Under the existing arrangement the subscribers at Lauderdale Lake whose chief telephone business is with Elkhorn are subjected to the delays incident to the use of a toll line, and will be obliged to pay a toll rate of 15 cts. for each two minute conversation. Even if the service of the La Grange exchange were perfect, it would be unreasonable to subject these subscribers continually to this delay and expense for what is substantially local service.

Conditions would be much improved by a physical connection between the two companies, but it is questionable whether it is possible for the Eagle Telephone Company to provide, through its La Grange exchange, a class of service which can be regarded as adequate for the subscribers at Lauderdale Lake. These subscribers are accustomed to the use of a city exchange, and their

business is almost wholly with Elkhorn or Chicago. They formerly had a direct connection with the Elkhorn exchange and were in an identical position, in respect to service, with that occupied by subscribers of the State Long Distance Telephone Company. They constitute, as it were, an integral part of Elkhorn, although located geographically at some distance from that city. Adequate service for such group of patrons must be substantially city service, and to require such service to be rendered by the petitioner through its La Grange exchange would probably place an unreasonable burden upon its rural subscribers for facilities which are not required by their circumstances.

It is our judgment, therefore, that the subscribers of the Eagle Telephone Company at Lauderdale Lake who formerly enjoyed a direct connection with the Elkhorn exchange of the State Long Distance Telephone Company cannot be adequately served by the Eagle Telephone Company through its La Grange exchange, either under the existing arrangements or with a physical connection between the two companies; and we regard it as desirable, in the interest of good telephone service, that the lines of the State Long Distance Telephone Company be extended for a distance of about one and one-half miles north of its present terminus at the Sterlingworth Hotel, connecting with such subscribers as desire the direct service of the Elkhorn exchange. The petition herein, insofar as it applies to the matter of physical connection between the lines of the two companies for the benefit of the subscribers in question, should accordingly be dismissed.

IT IS THEREFORE ORDERED, That the petition herein be and the same is hereby dismissed.

CERTAIN FREEHOLDERS, TAXPAYERS AND RESIDENTS OF DODGE COUNTY, AND MORE PARTICULARLY OF THE CITIES OF HORICON AND MAYVILLE, WISCONSIN,

vs.

G. A. McWILLIAMS, SUCCESSOR TO THE ROCK RIVER VALLEY LAND COMPANY.

Submitted Oct. 10, 1913. Decided Jan. 16, 1914.

The petitioners allege that the respondent, by dredging the Rock river in Dodge county below township 13, is changing the course, lowering the level and destroying the headwaters and navigation of the river and draining out the lake which forms its headwaters, thereby destroying the hunting, boating and fishing on the river and causing the river to become stagnant, and that all of these acts are unlawful and the cause of great injury and damage to the petitioners. The respondent is engaged in constructing a system of ditches for the purpose of draining the Horicon Marsh and, in furtherance of his plan, is deepening, widening and straightening the channel of the Rock river in the city of Horicon under authority granted in an ordinance passed by the city council. Investigations were made on the ground, by engineers employed by the Commission, for the purpose of ascertaining the present and probable future effects of the work undertaken by the respondent.

The Commission has power to regulate all river improvements so as to conserve all public rights in the rivers, promote the improvement of navigation and protect life, health and property, but has no jurisdiction over the authorization of contractors to do work or over their dealings with private parties.

Held: 1. The drainage work in question will insure deeper water in the river at Horicon at all times and thereby improve navigation. 2. Although the current in the river at Horicon may become extremely slow at times no disagreeable or unsanitary condition will result. 3. In view of the benefits which will accrue through the increased farming area tributary to Horicon and Mayville, the fact that the river may be made unsightly at some points in Horicon and the fact that the fishing and hunting interest on the marsh will be damaged, will not justify the condemnation of the project undertaken by the respondent as injurious to public rights or public safety.

The petition is therefore dismissed.

The petitioners allege that they are freeholders, taxpayers and residents of Dodge county, Wis., and more particularly of the cities of Horicon and Mayville; that the Rock River Valley Land Company is a foreign corporation, organized and existing under and by virtue of the laws of the state of Illinois, and having as its principal business the draining of swamp lands; that Rock

river below township 13 is a navigable stream; that G. A. McWilliams, as successor in interest to the said Rock River Valley Land Company, is now engaged and has for some time last past been engaged in dredging the said river below township 13; that he is changing the course, lowering the level, destroying the headwaters and navigation of said river; that he is draining out the lake which forms the headwaters of said river, thereby destroying the hunting, boating and fishing on said river, and causing the river to become stagnant; that all of said acts are unlawful and result in great injury and damage to the petitioners.

G. A. McWilliams, answering the petition herein, sets forth that the Rock river, as high up as township 14, range 15, is declared navigable by statute, and alleges that said river below said township 14 and north of the southern limits of the city of Horicon, Wis., never was navigable in fact for any purpose whatsoever during the usual and ordinary stages of water and otherwise than by hunting boats during high water; that he and fifty other individuals are the owners of a large tract of swamp land known as Horicon Marsh, and that they as such individuals are now engaged and have for about two years last past been engaged in the deepening of ditches through and upon said swamp lands so owned by them for the purpose of draining the same and putting the same under cultivation, and that they as such individuals for the purposes above set forth are now, with the consent and permission of the city of Horicon and of its common council, engaged in deepening and widening the channel of the Rock river through the city of Horicon in accordance with certain plans and specifications agreed upon by the said owners and said city. All other allegations of the petition material to the investigation he denies.

The matter came on for hearing on October 10, 1913. *E. G. Bennett* appeared on his own behalf and on behalf of the other petitioners. The respondent appeared by *Kearny, Thompson & Myers,* his attorneys.

The testimony in this case is extensive, but the facts are few and simple. G. A. McWilliams is now engaged and for the past two years has been engaged in constructing a system of ditches for the purpose of draining the Horicon Marsh. The area of the marsh is between forty-five and fifty square miles, and the plan is to dredge the main channel through the marsh together with a number of laterals running into it on the sides and to deepen,

widen and straighten the channel of the Rock river in the city of Horicon. Authority for the work in Horicon was granted in an ordinance passed by the city council. The validity of the ordinance has been challenged, but the question raised is immaterial so far as matters here under consideration are concerned.

During the progress of the drainage work an informal complaint was made to the Commission to the effect that the work was being performed without proper authority and furthermore that it was an injury to public welfare. This Commission has power to regulate all river improvements so as to conserve all public rights in such waters, promote the improvement of navigation and protect life, health and property, but has no jurisdiction over the authorization of contractors to do work or over their dealings with private parties.

On August 1, 1913, an investigation was made by an engineer of the Commission who reported that the complaint mentioned was not well founded; whereupon the petition dated August 6, 1913, now before us, and containing three-hundred signatures, was filed. Upon the receipt of this petition and prior to the hearing the Commission employed Mr. Seastone of Meade & Seastone, consulting engineers, to examine into the matter and to report the result of such examination to the Commission. Accordingly on August 20, 1913, he submitted a report. This report was unfavorable to the contention of the petitioners.

The report of the Commission's engineer shows that the drainage plans in the city of Horicon provided for a submerged dam near the railway bridge of the Chicago, Milwaukee and St. Paul Railway Company which would insure a depth of water of three feet in the river through the main part of the city at all times of the year. This report also expresses the opinion that the dredging will improve the river channel and the river banks and that the majority of the citizens of Horicon are in favor of the project.

Mr. Seastone's report agrees with that of the Commission's engineer as to the improvement of the river channel and banks, and, in addition, states that the back water from a dam at Hustisford extends up stream as far as Horicon, so that the level of the river at Horicon can not be reduced to any extent. This report also devotes considerable attention to the effect of the drainage work on the stream flow at Horicon and states in conclusion that both the minimum flow and flood flow will probably

be increased, but that the flood flow will not be increased to a dangerous extent. Upon the hearing a number of witnesses produced upon the part of the respondent sustained the reports of both engineers mentioned. Prof. L. S. Smith, engineer for the respondent, testified that the conditions and navigability of the river channel at Horicon would be improved and that there would be more water flowing at all times of the year than ever before. Other witnesses also brought out the facts that the river would be improved, that a large area of marsh land would be made useful for growing crops, that fishing had improved since drainage work had started, that conditions unfavorable to hunting would probably be created, that sewage would not be run into the river, and that the material dredged from the river bottom in Horicon is an unsuitable soil for growing grass or other vegetation.

Mr. Seastone and Prof. Smith both state that the minimum flow of the river at Horicon will be increased. This question involves the study of the effect on stream flow of the reduced marsh area subjected to evaporation of changed drainage conditions due to lowering the ground water level in the marsh and the study of the redistribution of run-off through the different periods of the year due to the ditching, so that it would appear that the results of these factors and their correlations can not be foretold with certainty. It should be noted that even though the minimum flow becomes larger than heretofore, the increase in the width and depth of the channel through Horicon will reduce the velocity of the stream so that the current will probably be as slow or slower than in previous years. It will always be a little slow, however, and inasmuch as sewage which has heretofore flowed into the river will be disposed of in another way, disagreeable or unsanitary conditions are not likely to result. The material excavated from the river channel in Horicon is being deposited along the shores of the stream in piles and will have to be leveled off and covered with good soil in order that the banks of the river may be suitable for growing grass. Where this is not done the banks will present an unsightly appearance. Some of the photographs submitted at the hearing indicate that there are places in Horicon where the material excavated from the river will not be sufficient to make sound banks, but will form only a ridge of mud on one or both sides of the channel separated from the shore line by a strip of shallow water or marsh.

Undoubtedly the conversion of certain marsh into farm land will do away with duck hunting, and although fishing has improved since drainage work has started, it is likely that this is a temporary condition only and will disappear when the breeding places in the wet marsh are done away with and only a system of canals and ditches is left.

It appears to be well established that the marsh is covered with good soil suitable for raising hay and other crops, and that all territory which can be drained will be a valuable addition to the farm lands tributary to Horicon. It will probably take a few years before these lands will come into requisition for the raising of cereals. They will, however, with proper care and attention, become capable, because of the richness of the soil, of producing many of the crops which can be raised in that territory.

The conclusion of our investigation has led to the following findings:

1. That the drainage work will insure deeper water in the Rock river at Horicon at all times and thereby improve navigation.

2. That although the current in the Rock river at Horicon may become extremely slow at times no disagreeable or unsanitary condition will result.

3. That in view of the benefits which will accrue through the increased farming area tributary to Horicon and Mayville, the fact that the river may be made unsightly at some points in Horicon and the fishing and hunting interest on the marsh will be damaged, will not justify the condemnation of the project undertaken by the respondent as injurious to public rights or public safety.

For the reasons stated, the petition will be dismissed.

NOW, THEREFORE, IT IS ORDERED, That the petition herein be and the same is hereby dismissed.

TOWN OF MADISON

vs.

ILLINOIS CENTRAL RAILROAD COMPANY.

Submitted July 30, 1913. Decided Jan. 16, 1914.

The petitioner alleges, in three separate complaints, that the Tillotson crossing, the Tierman crossing and the Summit crossing on the I. C. R. R. in the town of Madison are dangerous.

Held: The crossings are dangerous. The railroad company is ordered:

(1) to protect the Tillotson crossing by flaring as specified the ends of the cut in which the railroad lies and by grading to its full width that portion of the highway lying within its right of way, providing proper drainage facilities;

(2) to install and maintain at the Tierman crossing an electric bell with illuminated sign, plans to be approved; and

(3) to remove the waste material from the banks of the cut in which its track lies at the Summit crossing for the entire length of the cut so that the elevation of the land within its right of way shall not be greater than the elevation of the adjacent ground on the same side of the right of way.

The petitioner, a regularly organized town in Dane county, alleges, in three separate complaints, that three highway crossings on the respondent's line in the town of Madison are dangerous to public travel. They are designated as follows:

1. Tillotson crossing, three miles southwest of Madison.
2. Tierman crossing, 800 feet south of Summit.
3. Summit crossing, one-fourth of a mile north of Summit.

The Commission is therefore asked to take such action as it deems proper in the premises.

The respondent, in its separate answers, denies that any of the three crossings designated in the complaints are unreasonably dangerous and asks that the complaints be dismissed.

These petitions were heard at Madison on July 30, 1913. *Fay Hammersley* appeared for the petitioner and *Jones & Schubring*, by *E. J. B. Schubring*, for the respondent.

Tillotson Crossing.

The testimony shows that at this crossing the highway intersects the north and south single track line of the Illinois Central

Railroad Company at right angles. The railroad lies in a cut, the banks of which are ten or twelve feet in height, and the highway descends to the tracks from both sides. Weeds grow on the banks in summer and snow accumulates there in the winter, thus increasing the obstruction of the view. A rail fence in the northwest angle further limits the view. From the east highway approach a traveler must be within twenty-five feet of the track to see a train in either direction. From the west approach a train can be seen to the north when a traveler is within one hundred feet of the track, but the view to the south is obscured until one is within twenty-five feet of the track. The limits of vision are reported by our engineer as follows:

Distance of point of observation in highway from track.	View north.	View south.
West 50 feet	100 feet	100 feet
" 100 "	30 "	30 "
" 200 "	30 "	3,000 "
" 300 "	60 "	600 "
East 50 "	100 "	60 "
" 100 "	60 "	20 "
" 200 "	150 "	20 "
" 300 "	600 "	15 "

The highway existed as a private road before the railroad was built, but was not formally opened as a public road until about 1906. It is a crossroad and is used as a short route to Middleton. Witnesses estimated that about twenty-five crossings are made on the highway, including automobiles, light rigs, farm wagons and motorcycles. Several school children use the crossing on their way to and from school. There are eight regular train movements over this crossing. A serious accident and a number of narrow escapes were reported.

The Tierman Crossing.

From the testimony it appears that at the Tierman crossing the respondent's single track line intersects the Madison–Verona road which runs northeast and southwest at an angle of about 50 degrees. Immediately southwest of the crossing the Madison–Verona road connects with an east and west town line road which runs to Middleton and Pine Bluff. South of the crossing the track lies in a cut which is about fifteen feet deep. South of the highway and east of the tracks is a row of maple trees on

privately owned land which add to the obstruction of the view. To the north the view of approaching trains is comparatively unobstructed from either highway approach. Witnesses stated that a traveler must be very close to the tracks on either approach before he can see a train to the south. The limits of vision are reported by our engineer as follows:

Distance of point of observation in highway from track.	View north	View south.
Northeast 50 feet	1,000 feet.	600 feet
" 100 "	800 "	300 "
" 200 "	½ mile	200 "
" 300 "	½ "	200 "
Southwest 50 "	½ "	1,000 "
" 100 "	½ "	500 "
" 200 "	½ "	250 "
" 300 "	½ "	175 "

Witnesses estimated the traffic over this highway at about 150 crossings a day, about a third of the vehicles passing being automobiles. A considerable number of children are said to use this crossing on their way to and from school. There are eight regular train movements at this point. Several narrow escapes from accident are reported.

The Summit Crossing.

The testimony shows that at the Summit crossing the north and south single track of the railway intersects an east and west highway approximately at right angles. The highway lies in a cut, the banks of which vary from six to fifteen feet in height. The track curves to the east about four hundred feet north of the crossing. The town chairman testified that on the east highway approach the view of trains to the south is fairly open, but that in all the other angles the view is such that a traveler must be within about twenty-five feet of the track before a train is visible. He said, however, that at a point about six hundred feet west of the track the road is on higher ground and northbound trains may then be seen. The limits of vision are reported by our engineer as follows:

Distance of point of observation in highway from track.	View north.	View south.
West 50 feet	100 feet	300 feet
" 100 "	150 "	200 "
" 200 "	800 "	400 "
" 300 "	800 "	400 "
East 50 "	120 "	800 "
" 100 "	300 "	1,500 "
" 200 "	500 "	½ mile
" 300 "	500 "	½ mile

The highway is a crossroad connecting with a road which leads to Verona and Mineral Point. The normal traffic was estimated to be about fifty crossings a day, including some automobiles. This number is augmented on stock days by about twenty-five stock teams. There are eight regular train movements. A narrow escape was reported. The town chairman complained that the highway is not properly drained.

The respondent's superintendent expressed the opinion that each of the three crossings under consideration can be made reasonably safe by grading away portions of the obstructing banks. He stated that his company would prefer to reduce the speed of all of its trains at these crossings or even bring them to a stop, rather than install electric bells. The town chairman expressed the opinion that bell protection is necessary at each of the three crossings.

As a result of investigation on the ground our engineer recommends that the banks of the cuts at the Tillotson crossing and the Summit crossing be graded in such a way as to give a better view of trains, that the highway within the right of way at the Tillotson crossing be properly widened, graded and drained, that the Summit crossing be properly drained and that an electric bell and light be installed at the Tierman crossing.

In the light of the testimony and of the reports of our engineering staff we find that each of the three crossings considered in these proceedings is unusually dangerous. The position of the company with regard to stopping trains at dangerous crossings has been discussed in a former decision and need not be further referred to here. (*Town of Fitchburg v. I. C. R. Co.* 1913, 13 W. R. C. R. 403.) It is our judgment that the improvements and installations recommended by our engineer will render these crossings reasonably safe under the existing traffic conditions.

IT IS THEREFORE ORDERED, That the respondent, the Illinois Central Railroad Company, flare the ends of the cut at the Tillotson crossing, the flare to be the full width of the railway right of way at the highway lines and to taper out at points not less than one hundred feet north and south of the highway lines, allowing a three foot fence berm, the remainder of the earth obstructions to be removed down to an elevation of not over 3.5 feet above the rail; and grade to its full width that portion of the highway lying within its right of way, providing proper drainage facilities.

2. That the said respondent railroad company install and maintain at the Tierman crossing an automatic electric bell with an illuminated sign for night indication, plans for track circuits to be submitted to the Commission for approval.

3. That the said respondent railroad company remove the waste material from the banks of the cut in which its track lies at the Summit crossing for the entire length of the cut so that the elevation of the land within its right of way shall not be greater than the elevation of the adjacent ground on the same side of the right of way.

The bell and light at the Tierman crossing are to be installed and in operation within four months and the other improvements ordered herein are to be completed within six months.

TOWN OF MONTROSE
vs.
ILLINOIS CENTRAL RAILROAD COMPANY.

Submitted Dec. 5, 1913. Decided Jan. 16, 1914.

The petitioner alleges that a highway crossing, known as Cribbin's crossing, on the I. C. R. R. near Basco station in the town of Montrose, Dane county, is dangerous.

Held: The crossing requires further protection. The respondent is ordered to install an electric bell with illuminated sign, plans to be approved.

The petitioner, a duly organized town in Dane county, alleges in substance that a highway crossing on the respondent's line, located about one and one-fourth miles north of Basco station in the town of Montrose, is dangerous to human life on account of the surrounding physical conditions. The Commission is therefore asked to require the respondent to adequately safeguard this crossing.

The respondent, in its answer, denies that the crossing in question is unreasonably unsafe or dangerous to human life.

A hearing was held at Madison on December 5, 1913, at which *J. T. Lyle* appeared for the petitioner and *Jones & Schubring,* by *E. J. B. Schubring,* for the respondent.

The testimony shows that the crossing in question is known as Cribbin's crossing. The highway runs east and west and the railroad northeast and southwest. The track lies in a cut to the northeast, the crossing being located just at the end of the cut. Timber in the southeast angle of the crossing obstructs the view. There is also a cut to the southwest which begins about thirty rods from the crossing. The town chairman testified that on the west highway approach a traveler must be within twenty feet of the track to see a train to the north. A train from the southwest may be seen emerging from the cut about thirty rods from the crossing by a traveler after he comes within about ten rods of the track. On the east highway approach trains can be seen beyond the cut to the north until one is within ten or fifteen rods

of the track, after which no view is afforded to the north until the traveler is within twenty feet of the track. The view to the south from this approach is cut off by trees up to a point three or four rods distant from the track. The respondent's engineer testified that actual measurement shows the following limits of vision to the north:

Distance of point of observation in highway from track.	View north.	Distance of point of observation in highway from track.	View north.
East 18 feet	500 feet	West 15 feet	500 feet
" 23 "	300 "	" 21 "	300 "
" 25 "	200 "	" 22 "	200 "
" 42 "	100 "	" 50 "	100 "

The highway is the main traveled road from Paoli to Oregon. It is used chiefly by farm traffic, the travel being heaviest from 6 a. m. to 11 a. m. and during May, June and July. The town chairman estimated that about twenty teams a day use the crossing and the town clerk estimated the traffic at twenty-five teams a day. A number of children are obliged to cross at this point on their way to and from school. A narrow escape from accident was reported. The respondent's engineer testified that two passenger trains and two freight trains in each direction are operated over this line.

From the testimony it is very evident that the crossing in question is unusually dangerous, and in our judgment further protection is necessary. In view of the fact that the traffic is relatively light, it is unnecessary to inquire at this time as to the possibility or practicably of effecting a separation of grades. The installation of an electric bell and light should afford the public reasonable protection under the existing traffic conditions.

IT IS THEREFORE ORDERED, That the respondent, the Illinois Central Railroad Company, install and maintain at the highway crossing on its line known as Cribbin's crossing and located about one and one-fourth miles north of Basco, an automatic electric bell with an illuminated sign for night indication, plans for track circuits to be submitted to the Commission for approval.

This installation should be made within four months from the date of this order.

MARY L. KNUTSEN

vs.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted Oct. 13, 1913. Decided Jan. 16, 1914.

The petitioner asks that the respondent be required to restore a spur track which it formerly maintained at Kingston, Oconto county, and alleges that if the spur track were replaced potatoes from 75 to 100 acres of land and some logs and pulp wood would be shipped over it. The spur was removed in 1912 because, the respondent alleges, the business originating at Kingston was insufficient to warrant the maintenance of the spur and the physical conditions were such as to make the presence of a switch a menace to safe operation. Facilities for shipping carload freight are now provided at Mountain, which is 2.8 miles by rail from Kingston.

Held: The traffic at Kingston is not sufficient to warrant an order granting the prayer of the petitioner. The petition is therefore dismissed.

The petition alleges in substance that the Chicago & North Western Railway Company has removed a spur track which it formerly maintained at Kingston, Oconto county, Wis., and that potatoes from seventy-five to one hundred acres and some logs and pulp wood would be shipped at this point if the spur track were replaced. The Commission is therefore asked to require the respondent to restore this spur track.

The respondent in its answer denies that there is any necessity for a sidetrack at Kingston, and asks that the petition be dismissed.

A hearing was held on October 13, 1913, at Kingston, Wis. The petitioner appeared in her own behalf, and *C. A. Vilas* represented the respondent.

The testimony shows that the railway line was built about 1896, and that the spur track at Kingston was installed at about that time. It was removed in 1912. Sidetrack facilities are now provided at Mountain which is 2.8 miles from Kingston by rail and connected with it by a fair wagon road. There is also a potato warehouse at Mountain. Witnesses testified that if the track were restored, about 5,000 bushels of potatoes from

about eighty acres would be shipped from Kingston, instead of being hauled to Mountain as at present. It was also stated that some logs and pulp wood would be forwarded from Kingston. About 20 per cent of the surrounding country is cleared for agriculture.

The respondent's superintendent testified that the switch was taken out because the business originating there was insufficient to warrant its maintenance, and because the physical conditions are such as to make the presence of a switch a menace to safe operation.

Subsequent to the hearing data were submitted by the company showing all carload shipments from Kingston during the past three years. In that period only twenty-three carloads were shipped. Of these, sixteen carloads of logs were handled in October 1910, six carloads of pulp wood in June 1911, and one carload of cattle in November 1911. No carload shipments were made between November 1911 and the removal of the switch in 1912.

It is evident from the testimony that the carload business which might originate at Kingston would at best be slight. The records of the company show that when the track was taken out, carload traffic had dwindled to a very small amount, and it does not appear that conditions since that time have materially changed. The surrounding country was formerly a timber shipping region, but little timber remains to be cut. Thus shipments originating at Kingston must in the future be largely agricultural. It appears that the chief benefits of the proposed spur track would accrue to a few potato growers who now haul their products from two to five miles to Mountain, where ample facilities for shipping carload freight are provided, and where there is also a potato warehouse. The question of the safety of a spur track at Kingston is not passed upon in this decision, since, in our judgment, the insufficiency of traffic is such that, even though the track were entirely safe, the prayer of the petitioner should not be granted.

IT IS THEREFORE ORDERED, That the petition herein be and the same is hereby dismissed.

E. P. ROGERS

vs.

CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Submitted Aug. 19, 1913. Decided Jan. 16, 1914.

The petitioner alleges that the station facilities supplied by the respondent at Finley, Juneau county, are inadequate and asks that the respondent be required to install an agent and provide suitable grounds and buildings. The respondent now maintains two small sheds at Finley serving respectively as a shelter for passengers and as a freight room. Persons desiring to secure empty cars at Finley can do so by notifying the agent at Babcock or Necedah by mail. Shippers of less than carload freight have to wait at the station for a local train and help to load their goods on to the cars.

Held: Though the freight and passenger business transacted at Finley does not warrant the establishment of that station as a regular agency, as prayed for by the petitioner, the existing facilities cannot be regarded as adequate. The respondent is therefore ordered to properly repair its freight and passenger sheds at Finley, to employ a competent caretaker who shall have charge of the sheds and see that they are clean and that the passenger room is properly lighted and heated at train times; and to erect a suitable raised platform for loading cream and other articles onto cars, or, at its option, to load such cream and freight.

The petitioner alleges in substance that the station facilities supplied by the Chicago, Milwaukee & St. Paul Railway Company at Finley in Juneau county are inadequate for the freight and passenger traffic which obtains there. The Commission is therefore asked to require the respondent to install an agent and provide suitable grounds and buildings to accommodate the existing traffic.

The respondent in its answer denies that its station facilities at Finley are inadequate, and alleges that the earnings at this station are not sufficient to warrant any further expense for station facilities. It therefore asks the dismissal of the complaint.

A hearing was held at Finley on August 19, 1913, at which the petitioner appeared in his own behalf, and *H. H. Ober* for the respondent.

The testimony shows that the respondent maintains two small sheds at Finley each about ten feet square. One is used as a shelter for passengers, and the other as a freight room. The passenger shed is furnished with a stove and two benches. The door is never locked and the building is used by tramps in such a way that it is often in an unsanitary condition. A witness asserted that it had not been cleaned for three months prior to the hearing. No lights are provided.

The shed used for sheltering freight is not kept locked and all persons have access to it. Witnesses complained that freight is not always unloaded at the shed and put under cover, but that it is often thrown off at other points at the convenience of the train crews. The platform is low and the lift from it into the baggage car is hard, yet witnesses asserted that trainmen have refused to assist them in loading cream.

Persons desiring to secure empty cars at Finley can do so by notifying the agent at Babcock or Necedah by mail. Shippers of less than carload freight have to wait at the station for a local train, which is usually late, and help to load their goods onto the cars. No serious complaints were made with regard to facilities for shipping stock and carload freight, except that difficulty has been experienced in securing empty cars suitable for hay, which is the principal product shipped in bulk from Finley.

A witness for the petitioner offered in evidence a record kept by himself of the shipments of less than carload freight at Finley for five months in 1913, as follows:

February	68 packages
March	158 packages
May	163 packages
June	101 packages
July	70 packages

The company submitted with its answer a statement of its freight earnings at Finley for the year ending April 30, 1913, which shows a total of $1,015.11, or $84.59 per month. At the hearing the company's superintendent stated that 1,657 cans of cream were shipped from Finley during 1912. According to the testimony the revenue from these shipments would amount to more than $250. Subsequent to the hearing the company furnished data showing that during the seven months from

January to July 1913, inclusive, a total of 1,112 passengers, or an average of five per day, made use of the train service at Finley. A witness for the petitioners estimated that about fifty people live within a mile of Finley and that about three hundred persons are naturally tributary to this station. It was pointed out that persons who live a long distance from the station have to wait there for late trains, or for relatives to drive them home, and that without a properly heated shelter, this is a hardship, since the winters in this district are very severe.

It is evident from the traffic data submitted that the freight and passenger business transacted at Finley does not warrant the establishment of that station as a regular agency, as prayed for in the petition. However, the existing facilities cannot be regarded as adequate. Our engineer reports that at the time of his inspection in December the sheds were in poor repair, both windows of the freight room being broken, no locks being provided, and the passenger room not heated. The sheds should be made reasonably comfortable for waiting passengers and adequate for the protection of freight. A caretaker should be employed to keep the buildings clean, to see that the passenger room is properly lighted and heated at train times, and to keep the key to the freight room readily accessible to persons who have business there. Train crews should place less than carload freight consigned to Finley under shelter and, in the absence of a raised platform, should attend to the loading of small freight shipments and cream.

IT IS THEREFORE ORDERED, That the respondent, the Chicago, Milwaukee & St. Paul Railway Company, properly repair its freight and passenger sheds at Finley, employ a competent caretaker who shall have charge of the sheds, and see that they are clean and that the passenger room is properly lighted and heated at train time, and erect a suitable raised platform for loading cream and other articles on to cars, or, at its option, load such cream and freight.

ROSE J. DOYLE
vs.
MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY.

Submitted Sept. 20, 1913. Decided Jan. 16, 1914.

The petitioner asks that the respondent be required to restore the industrial track formerly maintained by it to the petitioner's warehouse at Stockton. The respondent alleges that it removed the track because the business done over it did not justify its maintenance and because it is impracticable to maintain the track on account of the elevation of the main line track at the point of connection. The track was originally constructed for a warehouse other than that of the petitioner and before the passage of the Railroad Commission Law.

Held: Inasmuch as the track in question was installed before the passage of the Railroad Commission Law and was not paid for in full by the owners of the industry to which it was originally built, nor in part by the petitioner or her predecessors, the removal of the track is not subject to the conditions imposed by sec. 1802 of the statutes and the Commission is without jurisdiction to order the restoration of the track as prayed for. The petition is therefore dismissed.

The petition alleges that the Minneapolis, St. Paul & Sault Ste. Marie Railway Company has removed the industrial track leading to the petitioner's warehouse at Stockton in Portage county, with the result that the value of the warehouse for shipping purposes has depreciated. The Commission is therefore asked to require the respondent to restore it.

The respondent, in its answer, alleges that it removed the track in question because the business did not justify its maintenance, and because it is impracticable to maintain the track on account of the elevation of the main line track at this point. The respondent denies that the value of the petitioner's warehouse has been injured by the removal of the track, since the same rental is obtained now as before such removal. The dismissal of the complaint is therefore asked.

A hearing was held at Stockton on September 20, 1913. *James Tovey* appeared for the petitioner and *A. H. Lossow* for the respondent.

The owners of the warehouse, for which the spur was originally built, performed the necessary grading and paid the railway company $100 in order to secure the track. No evidence was introduced to show that the petitioner or her predecessors had any part in the original construction. Some time after the spur was constructed the warehouse for which it was built was burned, and has not been rebuilt. Since that time the only industries located on this spur have been the petitioner's warehouse and a potato cellar under a saloon. The track was removed in 1912.

The company maintains a spur track north of its main line for the use of a number of industries, and owns ample land on that side, which it is willing to lease upon reasonable terms for the establishment of other industries. The owner of the saloon and potato cellar south of the main line testified that the north spur track is entirely satisfactory for his purposes. The present lessee of the petitioner's warehouse testified that he intends to use it for storing seed potatoes and that his shipments will amount to about fourteen or fifteen carloads in a year. The former lessee used the warehouse primarily for storage purposes in connection with another warehouse located on the spur north of the main track. He testified that while he was in possession, the shipments from this warehouse varied from five to twenty cars per year according to the abundance of the crops. The respondent's station agent at Stockton estimated that about five or six cars a year were shipped from the petitioner's warehouse when the spur track was connected.

With regard to the petitioner's claim that the value of her property has been depreciated by the removal of the spur track, the testimony shows that some years ago the warehouse was leased for $150 per year. For a year previous to the removal of the track, however, the rental was the same as that paid by the present lessee, namely $60.

The respondent's train master testified that the cost of maintaining the sidetrack to the petitioner's warehouse and keeping it clear of snow amounted to $166.35 per year, an amount which he claimed is out of all proportion to the volume of business. He also stated that on account of the elevation of the main line the grade of the sidetrack was abrupt, and that the presence of a switch added to the danger of main line operation. He said that the company is endeavoring to remove all unneces-

sary switches from its main line in order to increase the safety of travel.

In the present case the Commission is without jurisdiction to order the restoration of the sidetrack as prayed for. The track was installed before the passage of the Railroad Commission Law and was not paid for in full by the owners of the industry to which it was originally built, nor in part by the petitioner or her predecessors. Its removal is, therefore, not subject to the conditions imposed by sec. 1802 of the statutes, which provides for the building of spur tracks at the expense of the industry desiring them and for the removal only upon due notice and for good cause shown. If the petitioner desires to have a new spur track constructed to serve her potato warehouse and is willing to bear the cost of building the same, a petition should be filed with the Commission under sec. 1797—11m of the statutes. In such a proceeding the Commission is empowered to order the construction of such a sidetrack if the location of the warehouse is within three miles of the company's line, if the connection is necessary for the warehouse or industry in question and if it is not unreasonably dangerous to public travel.

IT IS THEREFORE ORDERED, That the petition herein be and the same is hereby dismissed.

TOWN OF RICHFIELD

vs.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY.

Submitted Nov. 28, 1913. Decided Jan. 16, 1914.

The petitioner alleges that the respondent refuses to provide cattle guards, signal posts, etc. at a highway crossing formed near Colgate by the intersection of the respondent's line with a public highway. The highway was laid out up to the lines of the respondent's right of way in 1910; but no evidence was introduced to show that the highway was legally opened across the railroad right of way.

Held: Until the proper legal procedure is taken to open the highway over and across the respondent's right of way no legal highway crossing will exist at the point in question and the respondent will be under no statute obligation to provide cattle guards or other crossing facilities. The complaint is therefore dismissed.

The town of Richfield, a municipal corporation in Washington county, alleges in substance that the respondent, the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, refuses to provide cattle guards, signal posts, etc., at a highway crossing one and one-half miles north of Colgate, formed by the intersection of its line with a public highway which was laid out in 1910.

The respondent, in its answer, denies that a highway was ever duly laid out over its right of way at the point designated in the complaint. It alleges that the town board has repeatedly torn down the fences along its right of way and trespassed upon the company's property. It therefore asks the Commission to take such action as is appropriate to protect the public using its trains and the rights of the company.

A hearing was held at Colgate on November 28, 1913, at which *J. J. Aulenbacher* appeared for the petitioner and *W. A. Hayes* for the respondent.

The testimony shows that in 1910 the highway in question was laid out up to the lines of the respondent's right of way; but no evidence was introduced to show that the necessary

legal procedure was taken to open the highway over and across the right of way. Until such action is taken no legal highway crossing exists at the designated point, and the company is under no obligation to provide cattle guards or other crossing facilities under the statutes. When the highway is legally opened over the right of way, the Commission will, upon petition by the town or by the railway company, determine the mode and manner of the highway crossing. It follows that the complaint should be dismissed.

IT IS THEREFORE ORDERED, That the complaint herein be and the same is hereby dismissed.

ROBERT H. PRITCHARD

vs.

CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY COMPANY.

Submitted Nov. 7, 1913. Decided Jan. 16, 1914.

The petitioner alleges that the failure of the respondent to maintain an agent at its station at Brill in Barron county causes great inconvenience to the patrons of the respondent and asks that the Commission take such action as it deems just in the premises. The respondent has an agreement with a local merchant under which the latter meets all passenger trains to sell tickets and transact other business for the respondent at the depot, bills goods for shipment and transacts business for the respondent at his store at hours other than train times.

Held: The service now rendered by the respondent at Brill is adequate under the existing traffic conditions. The petition is dismissed.

The petition alleges in substance that the Chicago, St. Paul, Minneapolis & Omaha Railway Company does not maintain an agent at its station at Brill in Barron county, thereby causing great inconvenience to its patrons. The Commission is therefore asked to take such action as it deems just in the premises.

The respondent answers that it maintains a small depot, consisting of a freight room, office and one waiting room; that a merchant at Brill acts as ticket agent and attends to freight shipments and that these facilities are ample considering the volume of business transacted at Brill and the revenue derived therefrom.

A hearing was held on November 7, 1913, at Brill. The petitioner appeared in his own behalf and the respondent was represented by *R. L. Kennedy.*

It appears from the testimony that the chief cause of complaint is that the petitioner, who is a resident of Chicago owning a farm near Brill, had some difficulty in collecting damages for the injury of a can of paint in transit, for the reason that Brill is not a regular agency. The petitioner also asserted that the business of the community is large and is increasing in volume,

and that to properly serve this freight traffic an agent should be stationed there. He complained that inbound less than carload shipments are not delivered at Brill unless prepaid, but are carried on to the nearest open station. There are about one hundred people living within a mile of Brill according to his estimate. The owner of a potato warehouse at Brill testified that the station service was satisfactory as far as his business is concerned. No resident of the community, other than the keeper of the general store who acts as agent for the company, testified at the hearing. This storekeeper, who is the local postmaster, meets all passenger trains to sell tickets and transact other business for the company at the depot. He attends to the billing of goods, and can be reached at the store, which is located near the station, when anyone desires to transact business with the company at other hours than train times. Less then carload freight is billed to Rice Lake or Birchwood, and is not put off at Brill unless fully prepaid, or unless the storekeeper assumes the responsibility for the freight charges, which he often does for persons whom he knows, and which he said he would do for the petitioner. The storekeeper estimated that about 40 per cent of the land in the vicinity of Brill has been cleared. The company introduced the results of a census of the locality which shows that near the station there is a general store, a creamery, a blacksmith shop, a saloon, an implement store, two potato warehouses and a flour and feed warehouse, and that there are about 117 families, comprising a population of about five hundred persons, who are so situated that they might come to Brill for train service. The company also submitted a statement of its earnings at Brill which are summarized in the following table:

Month.	tickets.	Revenue from ticket sales.	Revenue from cash fares.	Revenue from freight.
September, 1912	241	$148 70		$641 71
October, "	288	122 65		1,098 96
November, "	354	175 21		2,336 34
December, "	308	158 66		1,791 77
January, 1913	254	95 43		1,954 81
February, "	190	73 24		988 68
March, "	236	101 91		979 09
April, "	286	133 79		478 29
May, "	216	112 79		822 09
June, "	273	146 95		627 60
July, "	272	204 74		499 73
August, "	305	199 87		564 63
Total	3,223	$1,673 94	$129 72	$12,782 70

It was pointed out by counsel that about 75 per cent of the freight revenue reported is interline, only about 40 per cent of which accrues to the respondent company.

In our judgment the testimony does not warrant an order requiring the respondent to establish a regular agency at Brill. The complaint of the petitioner with reference to damage claims is one which should not be attributed to the fact that Brill is a prepaid station, since such claims should be adjusted irrespective of the character of the station. In this case there is no general complaint from the community, and the service appears to be entirely adequate under the existing traffic conditions.

IT IS THEREFORE ORDERED, That the petition be and the same is hereby dismissed.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF A HIGHWAY CROSSING ON THE LINE OF THE CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY AT CHESTNUT STREET IN THE CITY OF EAU CLAIRE.

Submitted Dec. 15, 1913. Decided Jan. 17, 1914.

This is a rehearing of a matter decided Nov. 14, 1913 (13 W. R. C. R. 74), held upon petition of the railway company which alleges that the highway crossing in question can be adequately protected by other and less expensive means than by a flagman and prays for a modification of the order issued.

Held: Though as a general practice the Commission does not approve of stopping trains at dangerous crossings in lieu of providing other methods of protection, it appears that trains in the instant case can be stopped as suggested by the railway company without materially impairing their schedules and that this will afford adequate protection at the crossing. The former order is therefore modified so as to require the railway company to station a flagman at the crossing to be on duty from 7 a. m. to 6 p. m. daily, or, at its option, to stop each of its trains at the crossing and protect the crossing by a trainman who shall precede the train to the street and remain there to warn travelers until the train has passed.

An order was issued in this matter on November 14, 1913, requiring the Chicago, Milwaukee & St. Paul Railway Company to maintain a flagman on the Chestnut street crossing in Eau Claire between 7 a. m. and 6 p. m. daily. The railway company petitioned for a rehearing alleging, among other things, that this crossing can be adequately protected by other and less expensive means than by a flagman. A rehearing was granted and held in Milwaukee on December 15, 1913. *J. N. Davis* appeared for the Chicago, Milwaukee & St. Paul Railway Company.

The company's superintendent testified that there are four regular train movements over Chestnut street daily, in addition to which there are about twelve switching movements, and during four weeks in the fall about one extra freight train daily. He stated that as it is a branch line and as trains move at slow speed at this point, the company would prefer to stop all trains at the crossing and send a trainman ahead to flag the crossing,

rather than station a regular flagman there. He said that the delay occasioned by such a practice would not seriously interfere with the maintenance of schedules. He pointed out that this arrangement would assure protection at all hours, whereas with a regular flagman no protection would be afforded when the flagman was not on duty.

As a general practice the Commission does not approve of stopping trains at dangerous crossings in lieu of other methods of protection. However, in this particular case it appears that trains can be stopped without materially impairing their schedules, and inasmuch as this practice will afford adequate protection, we see no important reason for refusing the modification in the order as prayed for.

Our former order herein is therefore modified and the Chicago, Milwaukee & St. Paul Railway Company

Is Hereby Ordered To station a flagman at the highway crossing on its line at Chestnut street in the city of Eau Claire, who shall be on duty from 7 a. m. to 6 p. m. daily, or, at its option, stop each of its trains at said crossing and protect the crossing by a trainman, who shall precede the train to the street and remain there to warn travelers until the train has passed.

IN RE PROPOSED EXTENSION OF THE LINES OF THE OWEN TELEPHONE COMPANY IN THE TOWNS OF HOARD AND GREEN GROVE, CLARK COUNTY, WISCONSIN.

Submitted Jan. 16, 1914. Decided Jan. 19, 1914.

The Owen Tel. Co. filed notice with the Commission of its intention to extend its telephone lines in the towns of Hoard and Green Grove in Clark county. The Curtiss & Withee Tel. Co. and the Abbotsford Lt. & Tel. Co. object to the proposed extensions. The unincorporated village of Curtiss, to which the applicant desires to make the extension proposed for the town of Hoard, is now served by both of the objecting companies. The region which the applicant desires to serve by the extension which it proposes to make in the town of Green Grove is without telephone service.

Held: 1. Public convenience and necessity do not require the proposed extension of the applicant's lines in the town of Hoard.

2. Since the proposed extension in the town of Green Grove cannot be regarded as unwarranted by public convenience and necessity, the applicant may proceed with the construction without any order from the Commission.

3. The contention of the objecting companies that the territory which the applicant desires to serve in the town of Green Grove is naturally tributary to Colby, Abbotsford and Curtiss rather than to Owen is not sufficient to compel a finding that the service of the applicant is not required by public convenience and necessity, for the territory in question is now without telephone service and several residents have already signified their desire for the applicant's service.

Notice of a proposed extension of the Owen Telephone Company in the towns of Hoard and Green Grove, Clark county, Wis., was filed with this Commission on December 29, 1913. Upon the filing of objection to the extension by the Curtiss & Withee Telephone Company and the Abbotsford Light & Telephone Company, the matter was set for hearing. At the hearing, which was held at Owen on January 16, 1914, the Owen Telephone Company was represented by *S. K. Clark,* the Curtiss & Withee Telephone Company by *J. M. Hanson* and others, the Abbotsford Light & Telephone Company by *A. H. Flaig,* and the Clark County Telephone Company by *H. H. Christofferson.*

This case involves two proposed extensions of the applicant's

line, one north to the unincorporated village of Curtiss, and the other south for two miles to reach a number of farmers in the the town of Green Grove. It appears that the village of Curtiss already receives telephone service from the Curtiss & Withee Telephone Company and the Abbotsford Light & Telephone Company. The Curtiss & Withee line has no central office of its own, but connects with the applicant's switchboard at Owen. Parties on any of the applicant's lines can reach Curtiss without charge by merely calling the applicant's switchboard and asking to be put onto the Curtiss line. Under these circumstances, it seems that not only are the people of Curtiss able to receive telephone service sufficient to satisfy their needs, but the people already on the applicant's line have sufficient facilities for reaching Curtiss without the entry of the applicant into that village. If it should be claimed that the Curtiss & Withee Telephone Company does not keep its line in condition to give good service between Owen and Curtiss, the remedy is to be sought through a proceeding before this Commission to compel adequate service.

Unnecessary duplication of telephone lines within the same territory was sought to be avoided when ch. 610 of the laws of 1913 was enacted. The inconvenience of having more than one telephone system is already being felt by the business people of Curtiss, and there seems to be no necessity of permitting any further duplication of lines in that village.

The only action required of this Commission by the law in cases of this kind is a finding that public convenience and necessity do not require the proposed extension. Where the Commission does not make such a finding, the statute itself operates to authorize the extension. In the case of extension in the town of Green Grove, therefore, since the Commission does not find the extension to be unwarranted by public convenience and necessity, the applicant may proceed with the construction without any order from this Commission. We shall proceed to state briefly, however, for the benefit of the parties, why the Green Grove extension is permitted to be made.

The extension south into the town of Green Grove will serve a region in which no telephone service is now being given. The applicant has actually solicited business in this territory and obtained four applications for service. The Abbotsford Light & Telephone Company and the Clark County Telephone Company

both extend about as near to the territory in question as does the applicant at the present time, and it was the position of these companies that the territory was naturally tributary to Colby, Abbotsford and Curtiss rather than to Owen. Since the territory is now unoccupied, however, and several persons have already signified their desire for the Owen Telephone Company's service, it is difficult to see how this Commission can make a finding that the service of that company is not required by public convenience and necessity. It is probable that had either of the other companies made the first move to enter the territory they would have been permitted to do so, but the question here is not whether the Owen Telephone Company is the only one that can adequately serve the territory, nor whether another company can supply its needs as well as the Owen Telephone Company, but whether the conditions are actually such that the Owen service is not needed. This finding we can not make from the evidence which has been presented.

We therefore find and determine that public convenience and necessity do not require the proposed extension of the Owen Telephone Company's lines in the town of Hoard into the unincorporated village of Curtiss.

PAINE LUMBER COMPANY, LTD.
vs.
CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted Dec. 9, 1913. Decided Jan. 20, 1914.

The petitioner complains of a bill presented to it for demurrage accrued on a number of cars loaded with logs. These cars petitioner was unable to unload into the river as usual because of the existence of a flood. He contends that the flood should be construed as an Act of God and that he should therefore be relieved from the payment of the demurrage. The demurrage rules in the respondent's tariffs make no exception for cases of delay caused by floods.

Held: The Commission cannot relieve a shipper from the payment of the lawful established tariff charges but can only authorize refunds after the payments have been made and have been found to be exorbitant, unusual, illegal or erroneous. If the petitioner considers the respondent's demurrage rules as unreasonable its proper course of action is to pay the demurrage and apply for a refund. The petition is dismissed.

The petitioner is a corporation engaged in the manufacture of sash and doors at Oshkosh, Wis. It alleges that a bill for demurrage for the month of April was submitted to it by the Wisconsin Demurrage Bureau for $356 for demurrage that accrued on a number of cars loaded with logs shipped to it from Mellen, Wis.; that its track for unloading logs is located on the river bank so that the logs dump from the cars into the river; that certain cars arrived and were placed on this track at a time when an unusually flooded condition of the upper Wolf and Fox rivers was in existence; that the water came rushing down, bringing with it hundreds of acres of bog, filling the river with this material and making it absolutely impossible to unload logs that had to be dumped into the river, and tore out piling ground and carried with it everything that was in its way, crushing more or less boats and boat houses along its path.

The petitioner further alleges that such flood should be construed as an Act of God, and contends that the petitioner should therefore be relieved from the payment of the demurrage.

The respondent railway company, answering the petition, sets

forth that the demurrage in question accrued and is collectible under and by virtue of its published tariffs; that there are no provisions in said tariff which would excuse the respondent from the collection of the demurrage in question by reason of any facts alleged in the petition, and that the respondent was not responsible for the conditions prevailing at the time.

The matter came on for hearing on December 9, 1913. There were no appearances.

The facts in this case are admitted. The petitioner has suffered a hardship through no fault of its own. Unfortunately, the demurrage rules make no exception for cases of delay caused by floods. Both petitioner and respondent are bound by these rules until challenged and found by the Commission to be unreasonable.

But, before the Commission could act in the premises, it would be necessary that an investigation be instituted upon proper complaint as to the reasonableness of the rule in question. In any event it would be necessary for the petitioner to pay the demurrage, and then seek a refund, if it should be found that the charge was unusual or exorbitant because of the unreasonableness of the rule in question. The Commission cannot relieve a shipper from the payment of the lawful established tariff charges. To do so would be the equivalent of suspending the operation of the statute, which is not within the power of the Commission. It only has authority to authorize refunds when the payments made are found to be exorbitant, unusual, illegal or erroneous. It follows that the Commission is without jurisdiction to grant the relief asked.

NOW, THEREFORE, IT IS ORDERED, That the petition herein be and the same is hereby dismissed.

H. W. SELLE & COMPANY

vs.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY.

Decided Jan. 20, 1914.

The petitioner alleges that the respondent charged it at the rate of 13½ cts. per 100 lb., subject to a minimum weight of 30,000 lb. per car, for the transportation of two cars of excelsior from Rice Lake to Waukesha, instead of at the rate of 11½ cts. per 100 lb., subject to a minimum weight of 20,000 lb. per car, provided in the respondent's tariff. The respondent admits these allegations and joins in the prayer for relief.

Held: The charge complained of was illegal and erroneous. Refund is ordered on the basis of the proper charge of 11½ cts. per 100 lb.

The petitioner is a corporation engaged in the manufacture of excelsior at Rice Lake, Wis. It alleges that on and between April 13 and June 4, 1913, it shipped two cars of excelsior from Rice Lake to Waukesha, Wis., on which the respondent assessed charges at the rate of 13½ cts. per cwt., subject to a minimum weight of 30,000 lb. per car, making total freight charges of $81.00 on the two cars; that the respondent had in fact, in connection with the Chicago & North Western Railway Company, as per freight tariff No. 5—E of the western trunk lines, at the time said shipments moved, a rate of 11½ cts. per cwt., subject to a minimum of 20,000 lb. per car, applicable to such shipments, and that as no routing was specified on shipping bills it was the duty of the carriers to forward the shipments by way of the routing over which the lower rate prevailed, and that their failure to do so resulted in an overcharge; that the actual total weight of the shipments was 107,064 lb., on which the freight charges at the rate of 11½ cts. would have amounted to $46.88, or an overcharge of $34.12, which petitioner asks to be refunded to it.

The respondent, answering the petition, admits the allegations thereof and joins in the prayer for the relief requested.

Although the shipment in question moved over the lines of the respondent railway company and also that of the Chicago & North Western Railway Company, and the latter company is not made a party to these proceedings, it seems that the respondent is willing to assume the responsibility of the refund. The overcharge was due to an error in applying tariffs. Under the circumstances we find and determine that the charge exacted of the petitioner on the aforesaid shipments of excelsior from Rice Lake to Waukesha was illegal and erroneous, and that the proper charge to have applied to such shipments was 11½ cts. per cwt.

NOW, THEREFORE, IT IS ORDERED, That the Minneapolis, St. Paul & Sault Ste. Marie Railway Company be and the same is hereby authorized and directed to refund to H. W. Selle & Company the aforesaid overcharge of $34.12.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF THE SERVICE OF THE NESHONOC LIGHT AND POWER COMPANY.

Submitted Nov. 6, 1913. Decided Jan. 20, 1914.

The Commission, on its own motion, investigated the service of the Neshonoc Lt. & P. Co. in the village of West Salem and the town of Hamilton. In an order issued in a previous matter on Aug. 7, 1912, the Commission specified certain improvements which were to be made in the plant of the utility to enable the utility to comply with the requirements of the standards prescribed by the Commission for electric service. Since the issuance of this order the utility has accepted a number of applications for power service, solicited by engineers of the Commission for the purpose of developing a patronage sufficient to warrant the expenditure necessary to place the plant in the best serviceable condition, and it is therefore necessary that the required improvements be made as soon as possible. The engineers of the Commission recommend that the utility submit for approval complete plans for an hydro-electric power and light plant to be built at the site of the present plant in such a manner as to allow for additional units to be installed, and for a new dam to replace the present dam when operating conditions warrant, and suggest certain specific improvements which should be made in the equipment of the plant.

Held: The improvements recommended should be made. The utility is therefore ordered: (1) to submit for approval within three weeks complete plans and specifications for an hydro-electric power and light plant, as recommended by the engineers of the Commission; and (2) to have the said plant completed and the equipment recommended installed within six months after the approval of the plans and specifications.

This matter came on for hearing on November 6, 1913. *E. C. Swarthout* appeared for the Neshonoc Light & Power Company and *Otto Bosshard* for the village of West Salem.

An order was made on August 7, 1912, in the matter of *Village of West Salem et al. v. E. C. Swarthout* (not reported) requiring the respondent in that matter, who owns and operates an electric lighting plant in the town of Hamilton and the village of West Salem, La Crosse county, under the name of the Neshonoc Light & Power Company, to make certain improvements in his plant so as to comply with the standards for electric service prescribed by the Commission July 24, 1908 *(In re Standards for Gas and Electric Service,* 1908, 2 W. R. C. R. 627). The improvements ordered were as follows:

1. The repairing or replacing of the dam at the power house on the La Crosse river so as to put the dam in good condition, plans for the work to be submitted to the Commission for approval.

2. The replacing of the retaining walls when the dam is built.

3. The provision of new gates and guides and the repairing or replacing of the wheel pit.

4. The installation of a new switchboard carrying an oil switch, enclosed fuses and suitable instruments.

5. The installation of a water wheel governor.

6. The installation of lightning arresters in the plant and throughout the system together with proper connecting and grounding of the so-called ground wire above the transmission line.

7. The setting of new poles wherever those in service are unsafe and the general overhauling of the line to see that connections are soldered, the slack pulled up and broken insulators, ties and pins replaced.

8. The testing of all meters and the operation of the plant so as to conform with the general standards of service established by the rules of the Commission.

The utility was given six months from the date of the order as a reasonable time within which to comply with the above requirements. It was recommended in addition, though not required, that the utility install a 60-cycle generator, making the necessary readjustment of meters to allow for the change in frequency and replacing certain transformers, and increase the size of the main shaft so as to eliminate some of the difficulties caused by the slipping of pulleys.

Since the order of August 7, 1912, was issued, the improvements specified have been in progress but have not been fully completed. It seems from the testimony that the dam has been repaired and is now in as good condition as it is possible to make it. It is conceded, however, that sooner or later it will be necessary to construct a concrete dam in place of the present dam. It follows, therefore, that the improvements which will be ordered should have in view the ultimate construction of a new concrete dam. The company's chief difficulty in the past has been its inability to obtain a patronage sufficient to warrant the expenditure necessary to place the plant in the best serviceable condition. In order to overcome this difficulty the engineers of the Commission have solicited and obtained power consumers to the number

of about thirty, who have agreed to use an aggregate of 96 connected horse power in motors for at least one year after the establishing of that service. These applications have all been accepted by the president of the company. It therefore follows that the improvements necessary to meet the new requirements should be made at the earliest possible moment.

The engineers of the Commission recommend that the company submit to the Commission for approval complete plans and specifications for an hydro-electric power and light plant to be built at the site of the present plant in such a manner as to allow for additional units to be installed, and for the present dam to be replaced when the operating conditions warrant. All construction made at this time, with the exception of the head gates, should be of reinforced concrete and metal. A new intake flume should be constructed at the side of the present flume. A new wheel pit and tail race should be put in to allow for two turbines operating either separately or together. The pits should be separated so that work on one turbine need not interfere with the operation of the other. One of these wheels having sufficient capacity to drive a 75 kw. generator at full load should be installed the coming spring. In addition to the above equipment a water wheel governor, an automatic voltage regulator and a switchboard should be installed, the latter to include an automatic oil switch, ammeters, a voltmeter and an integrating wattmeter. Suitable lightning protection should be provided. All of the equipment should be high grade, efficient and up to date.

After careful consideration we approve of the recommendations of the engineers, and the order herein will require the company to make the improvements suggested. The new work can be prosecuted without interfering with the operation of the present plant. If the work is properly prosecuted, the day service could be furnished within six months.

NOW, THEREFORE, IT IS ORDERED, That the Neshonoc Light & Power Company furnish to the Commission for approval within three weeks after the date hereof complete plans and specifications for an hydro-electric power and light plant to be built at the site of the present plant in such manner as to allow for additional units to be installed, and that within six months after the approval of such plans and specifications by the Commission the said company shall have completed said plant and installed all of the equipment recommended by the engineers of the Commission as hereinbefore stated.

INTERNATIONAL HARVESTER CORPORATION
vs.
CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Decided Jan. 21, 1914.

The petitioner alleges that the respondent charged it an unusual and exorbitant rate for the transportation of certain carload shipments of slag from Milwaukee to Horicon. The rate in question, 5 cts. per 100 lb., was in accordance with the respondent's tariff at the time the shipments moved but has since been reduced to 50 cts. per ton of 2,240 lb.

Held: The rate complained of was unusual and exorbitant. Refund is ordered on the basis of a rate of 50 cts. per ton of 2,240 lb. which would have been adequate compensation for the service rendered.

The petitioner is a corporation engaged in the manufacture and shipment of harvester and other lines of machinery, with offices located at Chicago, Ill. It alleges that in the course of general business it made twenty-four carloads shipments of slag from Milwaukee, Wis., to Horicon, Wis., as is evidenced by the expense bills filed with the petition; that all of said shipments were transported by the respondent from the point of origin to destination and that for such transportation the respondent charged a rate of 5 cts. per cwt.; that the commodity shipped is of no practical value and that a rate of 5 cts. per cwt. under the circumstances is unusual and exorbitant; that subsequent to the time the shipments moved the respondent, as per its tariff G. F. D. 2400–G, established a reasonable rate of 50 cts. per gross ton of 2,240 lbs.; that had said rate been in force and effect at the time said shipments moved the petitioner would not have been subjected to the charge of the unusual and exorbitant rate of 5 cts. per cwt.; that by reason of the respondent's exacting from the petitioner said rate the petitioner has been charged an excessive amount of $268.55 on said shipments. Wherefore, the petitioner prays that the respondent be authorized and directed to refund to it said excessive amount.

The respondent railway company, answering the petition, sets

forth that at the time said shipments moved, according to the lawful published rates, the rate on the commodity was 5 cts. per cwt. between the points of origin and destination, and that subsequently, as alleged in the petition, it established a rate of 50 cts. per gross ton on said commodity from the point of origin to destination. It submits the matter to the determination of the Commission.

It is conceded that the rate of 5 cts. per cwt. charged petitioner on the aforesaid shipments was unusual and exorbitant. Taking into consideration the value of the commodity, the cost of transportation and all other factors involved in the question of the reasonableness of the charge, it seems that a rate of 50 cts. per gross ton was adequate compensation for the service rendered. Under the circumstances, we find and determine that the charge of 5 cts. per cwt. exacted of the petitioner on the aforesaid shipments of slag from Milwaukee to Horicon is unusual and exorbitant, and that the reasonable charge for such shipments is 50 cts. per gross ton, as provided in respondent's tariff G. F. D. 2400–G. The amount of the overcharge is $268.55, for which an order of reparation will be made.

NOW, THEREFORE, IT IS ORDERED, That the Chicago, Milwaukee & St. Paul Railway Company be and the same is hereby authorized and directed to refund to the International Harvester Corporation the aforesaid sum of $268.55.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF THE FAILURE OF THE DODGEVILLE ELECTRIC LIGHT COMPANY TO COMPLY WITH CERTAIN ORDERS OF THE COMMISSION, RELATING TO STANDARDS OF SERVICE.

Decided Jan. 21, 1914.

The Commission, on its own motion, investigated the practice of the Dodgeville El. Lt. Co. with respect to compliance with the orders of the Commission establishing standards for gas and electric service (July 24, 1908, 2 W. R. C. R. 632 and Aug. 9, 1913, 12 W. R. C. R. 418). Inspections made at various times from March, 1909, to Dec., 1913, showed continued failure to fully comply with the first of these orders but an inspection made in Nov., 1912, indicated that the utility was at that time complying with all the requirements of the order. An inspection made on Jan. 3, 1914, however, showed that the service rendered by the utility does not entirely meet the requirements of adequate service as defined in the order of Aug. 9, 1913.

It is ordered that the utility: (1) engage a competent, reliable engineer who thoroughly understands the needs of the utility's system, and notify the Commission of the securing of his services within 15 days after the serving of this order; (2) that plans and specifications covering new equipment and changes in the system be filed with the Commission within 30 days after the securing of the services of the said engineer; and (3) that the changes be made as promptly as possible, such work as can be begun before outdoor construction is possible to be started immediately after the plans and specifications submitted to the Commission are approved by it. Six months is deemed a sufficient time in which to comply with the standards of service included in this order.

On July 24, 1908, the Commission issued an order establishing standards for gas and electric service. This order stated specifically what meter practice would be required and what voltage regulation would be necessary in order to give adequate service and specified the records to be kept by electric utilities. It specified various other details in defining adequate service. An inspection of the conditions at Dodgeville made in March, 1909, showed that the meter testing rules were being violated, that records of interruptions were not being kept as required, and that in some other respects the service was not up to the standards ordered by the Commission. These various matters were taken up with the management. Another inspection made

in December, 1909, showed that the voltage regulation at one of the localities where records were taken was outside of the allowable limits, and that no steps had been taken to comply with the meter testing requirements. In May, 1910, two of the four voltage records taken were outside of the allowable limits, and still no steps had been taken in regard to the meter testing. These various matters were taken up thoroughly at each inspection and explained in detail to the manager of the utility, and considerable correspondence was carried on throughout this entire period regarding compliance with the various rules, particularly the meter testing. An inspection made in November, 1910, showed that all meters had been tested, but that those found outside the allowable limits of accuracy were not readjusted as required. Over one-half the meters were outside these requirements, this condition being due particularly to the fact that the frequency on the system had been changed without readjusting the meters. This is not only violation of the Commission's orders, but of the requirements of good practice almost universally complied with, independent of any governmental authority covering the matter. On account of these various conditions, the Dodgeville Electric Light & Power Company was required to appear before the Commission on February 20, 1911, at the capitol at Madison, and show why it should not be required to comply with the Commission's order. *Dr. W. J. Pearce,* manager, appeared for the company. He assured the Commission that steps would be taken at once to make the service entirely satisfactory as required, so decision in the matter was deferred pending progress. April 4, 1911, Dr. Pearce wrote the Commission that the company had practically all the meters corrected or replaced with new meters which were correct. An inspection made December 19–21, 1911, showed that the voltage regulation was very satisfactory, but indicated that a great majority of the meters had not received a test within the past year as required. On January 9, 1912, the company was informed that unless meters were tested as required before February 20 of that year it would be necessary for the Commission to take steps to cause the fine prescribed by law to be imposed. An inspection made May 27–28, 1912, showed satisfactory compliance with all meter testing requirements and also showed that the voltage was satisfactory in the three localities where records were taken. On November 23–25, 1912, another inspection was made which indicated full

compliance with the various requirements included in the Commission's order.

On August 9, 1913, after due hearing, the Commission revised its standards for gas and electric service, issuing a new set of rules, numbered 14 to 37, inclusive, covering the quality of service to be furnished by all electric utilities and superseding the rules issued in 1908. Shortly after the issuance of these rules, copies were sent to all utilities, including the Dodgeville Electric Light & Power Company. During the latter part of 1913 complaints were made informally to the Commission, stating that the service at Dodgeville was frequently interrupted and that it was very unsatisfactory.

On January 3, 1914, an inspector visited Dodgeville to investigate these various complaints and determine how far the Dodgeville company was complying with the Commission's revised standards for service. At this time a number of city officials and leading business men of the city were interviewed and all made practically the same statements to the effect that the service was very unreliable so that consumers were obliged to keep kerosene lamps ready for use at all times; that the service was frequently interrupted for several hours at a time; and that it was very necessary that electric consumers in Dodgeville be given better service. An inspection was made of the plant at this time and various parts of the distribution system were looked over. It was found that in a few places the wiring had not been kept in proper condition. The plant was very dirty. The generator is a three phase generator, but only one phase was being used, the peak load of 54 amperes putting a full load on that phase of the machine. Complaint was made that the trees interfered with the lines and that there were frequent discharges observed because of this interference, resulting in fluctuation of the voltage. It was learned that the commutator of the exciter gave way some time ago, disabling the plant until another machine could be obtained from Madison. From the investigation made, it would appear that this was due to carelessness on the part of the company. It further appears that the exciter now in use at the plant is not owned by the company, but is rented from the manufacturers, and that they intend returning it when the other armature is repaired and returned. A 125 h. p. boiler has recently been purchased from the Mt. Horeb Heat, Light & Power Company, and although it has been overhauled and repaired, the

inspector was of the opinion that the repairing had been well done and that the boiler might be satisfactory for use. The boiler now in use is a 75 h. p. boiler but it apparently is in bad condition. There is a duplex pump used for pumping feed water into a tank and another for pumping it from the tank to the boiler. There has been some trouble with these pumps and some provision should be made for a reserve pump or other means of getting water into the boiler when one of the pumps in service fails. The managment has stated from time to time that it was intended to overhaul the plant and system shortly, but that the matter had been deferred because of pending negotiations looking to either the disposal of the plant or the purchase of power for operating it.

From all the foregoing facts it appears that the service being furnished by the Dodgeville Electric Light & Power Company is not entirely adequate as defined by the Commission's order of August 9, 1913, (12 W. R. C. R. 418) prescribing standards for gas and electric service.

IT IS THEREFORE ORDERED, That the Dodgeville Electric Light & Power Company thoroughly overhaul its entire system promptly so as to give service that is in full compliance with the standards established by the order of August 9, 1913, which is attached hereto and made a part of this order.

IT IS FURTHER ORDERED, That the Dodgeville Electric Light & Power Company engage a competent, reliable engineer who thoroughly understands the needs of this system; that the Commission be notified regarding the securing of the services of such an engineer within fifteen days after the service of this order; and that plans and specifications covering new equipment and changes in the system be filed with the Commission within thirty days after the securing of the services of such an engineer.

IT IS FURTHER ORDERED, That the changes be made as promptly as possible and that such work as can be begun before outdoor construction is possible shall be started immediately after the plans and specifications submitted to the Commission are approved by it. Six months is deemed sufficient time in which to comply with every detail of the standards for service included in the foregoing order, making full and complete compliance with the order of August 9, 1913, attached hereto.

A. E. FREDERICK
vs.
CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted July 9, 1913. Decided Jan. 22, 1914.

The petitioner alleges that the depot and station facilities maintained by the respondent at Elroy, Juneau county, are inadequate, unsightly and unsanitary and asks that the respondent be required to provide a new and adequate depot.

Held: The station facilities in question are inadequate and can be made adequate only by the construction of a new depot. The respondent is ordered to erect a modern and adequate depot, to be open for public use on or before Oct. 1, 1914, plans to be submitted for approval.

The petitioner, who is a resident of Kendall, Wis., alleges that the depot and station facilities maintained by the Chicago & North Western Railway Company at Elroy, Juneau county, are grossly inadequate, unsightly and unsanitary. The Commission is therefore asked to require the respondent to provide a new and adequate depot at Elroy.

The respondent, in its answer, denies that its station facilities at Elroy are grossly inadequate, unsightly and unsanitary, but states its intention to repair, paint and clean the station building and make it in all respects suitable to the mind of the traveling public. It therefore asks that the petition be dismissed.

A hearing was held on July 9, 1913, at Elroy. The petitioner appeared in his own behalf and *C. A. Vilas* represented the respondent.

At the hearing the respondent admitted that the existing station facilities at Elroy are inadequate and stated its intention of ultimately providing a new depot. Owing to the possible changes in the flow of traffic through Elroy on account of the establishment of the new line via Wyeville, the company asked for ample time for the construction of a station. Later during the hearing and subsequent thereto the position was taken that the existing structure can be satisfactorily remodeled and that a new building is therefore unnecessary.

The present depot, which is a two story structure, was built about 1872. The two waiting rooms and the ticket office are located on the first floor, the remainder of the building being used for hotel and restaurant purposes. The petitioner testified that the men's room will seat fourteen persons and the women's room twelve, making the total seating capacity twenty-six. The respondent admitted that these rooms are overcrowded at times. Elroy has a population of about 2,000, which includes a considerable number of railway employes who work in the shops and yards of the respondent. It is the junction of the Chicago & North Western railroad and the Chicago, St. Paul, Minneapolis & Omaha railroad on the main line of the North Western system between Chicago and Minneapolis. It is also an important transfer point from this main line to Sparta, La Crosse and other western points. It was pointed out that the schedule of trains is such that passengers are obliged to wait for a considerable time at the depot in making connections. The petitioner estimated that on the average about one hundred persons use the depot in a day, but stated that this is a very conservative estimate. The station agent at Elroy testified that there are usually about one hundred transfer passengers in a day. A member of the Commission's staff observed conditions at this station from 3 p. m. on October 29, 1913, to 10 a. m. on October 30, a period of nineteen hours, and noted as many as thirty-one persons using the waiting rooms at one time. Subsequent to the hearing the respondent submitted a statement of the number of tickets sold by it at Elroy:

Month.	Number of tickets.	Month.	Number of tickets.
December 1912	1,669	June 1913	1,930
January 1913	1,660	July "	2,258
February "	1,406	August "	2,039
March "	1,812	September "	1,735
April "	1,742	October "	2,362
May "	1,705	November "	2,015

It should be noted that this statement does not include tickets sold by the Chicago, St. Paul, Minneapolis & Omaha Railway Company. Moreover, it does not show the incoming passenger traffic which may be assumed to be substantially as great as the outbound traffic. Nor does it indicate the number of trans-

fer passengers using the station in a day which was estimated by the station agent at about one hundred.

The waiting rooms are heated by stoves and were said to be very poorly ventilated. Toilet facilities were described by witnesses as inadequate and unsanitary and the superintendent admitted that they are not fully adequate or in the best condition. The closets are separate from the main building, being connected with it by open walks, and are unheated. Witnesses asserted that they are so unsanitary as to create a public nuisance.

In explanation of the company's delay in providing better facilities at Elroy the superintendent stated that a considerable amount of traffic has been diverted from Elroy because of the construction of the new line through Wyeville, and that the character of the station needed at Elroy will depend upon the ultimate extent of this diversion. The new line was completed in March 1912. Upon cross-examination, however, the superintendent admitted that while a large part of the freight business has been taken from Elroy, only one passenger train has been rerouted, and that for a part of the year this train is operated in two sections, one via Elroy and one via Wyeville. The respondent's station agent testified that there has been no noticeable decrease in the passenger traffic at Elroy since the completion of the new route.

If the company seriously contemplated remodeling its depot, it should have formulated its plans and presented them at the hearing or very soon thereafter. Upon receipt of petitioner's brief the respondent, in a letter dated November 17, 1913, expressed a desire to submit such plans and requested that action in the matter be deferred until they could be presented. Thirty days were accordingly granted for this purpose. Two months have elapsed and no plans have been filed, but the respondent now asks for a further extension of time. In our opinion further delay in this matter is not justified.

From a careful examination of the testimony and from personal observation of the depot in question, it is our judgment that the station facilities at Elroy are inadequate and that the erection of a modern structure is necessary. The existing building, in our opinion, cannot be remodeled in such a way as to render adequate service at a junction station of the importance of Elroy. The new station should be built at or near the pres-

ent site in order to properly accommodate the passengers transferring at Elroy, who constitute a very considerable part of the traffic.

IT IS THEREFORE ORDERED, That the respondent, the Chicago & North Western Railway Company, erect a modern depot at Elroy which shall be adequate for the traffic at that station, plans to be submitted to the Commission for approval.

October 1, 1914, is regarded as a reasonable date at which the depot ordered herein shall be completed and open for public use.

WAUKESHA LIME AND STONE COMPANY

vs.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY, CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY, MINNEAPOLIS, ST. PAUL, AND SAULT STE. MARIE RAILWAY COMPANY.

Submitted May 27, 1913. Decided Jan. 22, 1914.

Complaint is made of certain charges which are exacted on carload shipments of slab wood, kiln wood and cordwood originating at Wisconsin points on the C. M. & St. P. and the C. & N. W. railroads and delivered to the complainant at its plant on the tracks of the C. M. & St. P. railroad at Waukesha. The complainant alleges: (1) that the charge of $4 per car for the service rendered by the C. M. & St. P. Ry. Co. and the M. St. P. & S. S. M. Ry. Co. in delivering cars brought into Waukesha by the C. & N. W. Ry. Co. is excessive by the amount that it exceeds $2; (2) that the switching charges of the C. M. & St. P. Ry. Co. and the M. St. P. & S. S. M. Ry. Co. should be absorbed by the C. & N. W. Ry. Co. out of a line haul charge of $15 per car instead of down to a net charge of $15 per car; and (3) that the charge of the C. & N. W. Ry. Co. and the C. M. & St. P. Ry. Co. for line haul should in every case be computed on the actual weight of fuel wood in the car at the lowest rate.

Held: 1. The switching charge of $4 is correct on the basis of the tariffs filed and is not unreasonable. 2. The absorption of switching charges down to a net line haul revenue of $15 is reasonable. 3. The custom of having a dual basis of computing charges on wood, using either a high rate and low minimum or a low rate and high minimum in order to obtain the lowest charge, is not entirely defensible, but inasmuch as the present rates when combined with the prescribed minimum are not excessive, the request that the minimum used with the low rate in the instant case be lowered cannot be granted. The complaint is dismissed.

The complainant in this case, the Waukesha Lime and Stone Company, does a general business in stone, sand, gravel, and lime, with general offices in Racine and certain plants in Waukesha.

It appears that the complainant has received at its plant on the tracks of the C. M. & St. P. Ry. at Waukesha, carload shipments of slab wood, kiln wood, and cordwood originating at various points in Wisconsin on the C. M. & St. P. and the C. & N. W. railways. It is necessary for the M. St. P. & S. S. M. Ry. Co. to transfer cars brought into Waukesha by the C. & N.

W. Ry. to the tracks of the C. M. & St. P. Ry. Cars originating on the C. M. & St. P. Ry. are, of course, handled direct to destination by that road.

The complainant contends:

(1) That the charge of $4 per car for the service rendered by the C. M. & St. P. and M. St. P. & S. S. M. railways in delivering cars brought into Waukesha by the C. & N. W. Ry. is excessive by the amount that it exceeds $2.

(2) That the switching charges of the C. M. & St. P. and the M. St. P. & S. S. M. railways should be absorbed by the C. & N. W. Ry. out of a line haul charge of $15 per car instead of down to a net charge of $15 per car as appears to have been the practice of the C. & N. W. Ry.

(3) That the charge of the C. & N. W. Ry. and of the C. M. & St. P. Ry. for line haul should in every case be computed on the actual weight of fuel wood in the car at the lowest rate.

Hearing was held in this case May 27, 1913, at Milwaukee. The petitioner and the several respondents were represented. The testimony taken indicates a substantial agreement between the contestants as to what the present practice of all parties are and the efforts of this Commission have been directed toward ascertaining the reasonableness of these practices. Considering the contentions of petitioners in order the Commission finds:

(1) That a switching charge of $4 per car for the service of the M. St. P. & S. S. M. Ry. and that of the C. M. & St. P. Ry. in effecting the delivery of a car brought into Waukesha by the C. & N. W. Ry. at an industry located on the tracks of the C. M. & St. P. Ry. is correct on the basis of the tariffs filed and is not unreasonable.

(2) That the absorption of switching charges down to a net line haul revenue of $15 is reasonable.

(3) The custom of a dual basis of computing charges on wood, using either a high rate and low minimum or a low rate and high minimum in order to obtain the lowest charge, is not entirely defensible. It has come about through the efforts of the roads to get as heavy a loading as possible of a commodity of low value and light weight. An investigation of rates and costs made in this case shows that, allowing a low rate of return to the carrier on its investment, the costs are such that the present rates when combined with the prescribed minima are not excessive, and any substantial lowering of the minima would necessitate

increased rates. It will perhaps be necessary to undertake to adjust the whole scheme of rates on fuel wood by the establishment of a single rate and a single minimum for each of the three or more general groups of sizes of box cars. In the instant case, however, the complaint does not ask this but only that the minimum used with the low rate be lowered. This the Commission cannot order in the light of the facts before it.

IT IS THEREFORE ORDERED, That this complaint be and hereby is dismissed in each particular.

IN RE APPLICATION OF THE MT. HOREB HEAT, LIGHT, AND POWER COMPANY FOR AUTHORITY TO INCREASE RATES.

Submitted Oct. 1, 1913. Decided Jan. 23, 1914.

The Mt. Horeb Heat, Lt. & P. Co. applies for authority to increase its rates for electric current. A valuation of the physical property of the applicant was made and the revenues and expenses were investigated. The applicant has recently changed its method of generation from steam to producer gas, increased its investment and made plans to furnish its consumers with current during the daytime and to otherwise improve the service. Two computations are accordingly made of revenues and expenses, one being based upon conditions before the changes mentioned, the other upon estimates of what the expenses and sales will be under the new conditions.

Held: The applicant's rates require revision. The applicant is therefore authorized to put into effect a schedule of rates fixed by the Commission.

The application of the Mt. Horeb Heat, Light and Power Company for authority to increase rates, filed May 24, 1913, alleges that the lawful meter rates in effect are as follows: 12 cts. per kw-hr. for all current used; minimum monthly charge 50 cts. to customers owning meters and 75 cts. to customers to whom the company supplies meters. The petition further alleges that the company expects to invest considerable money in additional machinery, equipment and extensions; that it expects to furnish its customers with current during the daytime, and to otherwise improve the service; and that the present rates are too low to yield a reasonable return after providing for operating expenses and depreciation. For these reasons the company prays that it be given authority to put in effect the following schedule:

Incandescent Lighting.

For the first	10	kw-hr. used per month	16	cts. per kw-hr.
For the next	50	" " "	12	" "
All over	60	" " "	10	" "

Minimum charge $1.00 per month.

Meters will be installed and owned by the company.

A discount of 5% will be allowed on all bills paid by the 10th of the month.

The first service connection will be free but there will be a charge of $1.00 for reconnecting the same customer.

Power.

For the first	100 kw-hr. used per month	.....	8 cts. per kw-hr.
For the second	100 " " "	.....	6 " "
For the third	100 " " "	.....	5 " "
For the next	300 " " "	.....	4 " "
All over	600 " " "	.....	3 " "

Minimum charge 50 cts. per connected horse power per month.

A discount of 5 per cent will be allowed on all bills paid by the 10th of the month.

Meters will be installed and owned by the company.

Current for motors of 1 h. p. or less will be charged for at lighting rates.

A hearing was held at the office of the Commission at Madison on October 1, 1913. *A. G. Michelson* appeared for the applicant and *G. E. Michelson,* village president, appeared for the village of Mt. Horeb.

No opposition was made at the hearing to the granting of the application. Mr. G. E. Michelson stated that he was aware of the fact that the plant had always operated at a loss, and that he thought the general sentiment of the village was that it wanted the plant to operate and to pay a reasonable profit, also that the village would rely on the Commission to look after its interest in the matter.

The electric plant at Mt. Horeb began operating in the year 1903 under a franchise granted by the village, which specified that the meter rates should be 14 cts. per kw-hr. for all current consumed up to 26 kw-hr. per month, 12 cts. per kw-hr. when the current consumed was between 26 and 60 kw-hr., and 10 cts. per kw-hr. when the current consumed was over 60 kw-hr. In addition there was a provision that the minimum charge should be $1 per month. Since 1903 the ownership of the plant has changed hands several times and the rates have been reduced to what they are now. It appears that the present owners acquired the property about November 1, 1912. In May 1913 they began remodeling the entire plant and distribution system. The method of generation has been changed from steam to producer gas, and the kind of energy supplied has been changed from direct to alternating current.

A valuation of the physical property of the utility was made as of date Oct. 1, 1913, a summary of which follows:

Classification.	Commercial light.		Arc light.		Total.	
	Cost new.	Present value.	Cost new.	Present value.	Cost new.	Present value.
A. Land (leased)	.....	.....	.....	.....	.....	.....
B. Transmission and distribution	$3,778	$3,530	$881	$803	$4,659	$4,333
C. Bldgs., miscellaneous structures	2,103	2,053	183	179	2,286	2,232
D. Plant equipment	6,620	4,326	821	622	7,441	4,948
E. General equipment	421	324	14	9	435	333
Total	$12,922	$10,233	$1,899	$1,613	$14,821	$11,846
Add 12% (see note below)	1,551	1,228	228	194	1,779	1,422
Total	$14,473	$11,461	$2,127	$1,807	$16,600	$13,268
H. Materials and supplies	305	305	27	27	332	332
Total	$14,778	$11,766	$2,154	$1,834	$16,932	$13,600
J. Non-operative	.....	.....	.....	.....	2,358	942
Total	$14,778	$111,766	$2,154	$1,834	$19,290	$14,542

NOTE: Addition of 12 per cent to cover engineering, superintendence, interest during construction, contingencies, etc.

The building and distribution system were not quite completed when this valuation was made. The valuation, however, includes everything as it will be when the remodeling is finished. The non-operative property, which is listed at $2,358, cost new, and $942, present value, is the old steam equipment that has been taken out. This has now been sold and consequently need not be considered. Excluding the non-operative property the valuation shows a cost of reproduction new of $16,932 and a present value of $13,600, including material and supplies. No direct evidence was introduced at the hearing relative to the value of the plant. The report of the company for the year ending June 30, 1913, however, was submitted as evidence. The balance sheet in this report shows that the cost of the plant at the beginning of the year was $5,600. This is the sum that the present owners paid for the property. The balance sheet also shows that $5,969.99 was expended on new construction during the year, making a total cost of $11,569.99 at the end of the fiscal year. The Commission's valuation, which was made as of October 1, 1913, and which included such parts of the plant and distribution system as were still in process of construction, shows a present value of $13,268, or $1,798 more than the company shows in its balance sheet for June 30. During the interval between the date of the company's balance sheet and the staff's valuation the company did considerable remodeling. We have, however, no in-

formation relating to the amount that was expended during this time, neither have we any information as to the total amount expended in rebuilding this plant. It seems reasonable to assume that the present value as shown in the Commission's valuation also represents quite closely the cost of this plant to the present company; consequently we will use this amount as the basis of our computations in this case.

The following table shows the revenues and expenses taken from various sources for the years 1910 to 1913, inclusive:

Year.	Source of information.	Revenues.	Expenses.	Available for depreciation, interest and taxes.	Deficits.
1910.....	Annual report.....	$2,430 01	$2,047 25	$382 76	.....
1910.....	6 W.R.C.R. 44-46.....	2,353 01	2,643 57	.....	$290 56
1911 (6 mos.)..	Annual report.....	2,092 77	2,424 58	.....	331 81
1912.....	Annual report.....	3,741 46	3,340 84	400 62	.....
1913.....	Annual report.....	3,170 76	3,254 80	.....	84 04
1913.....	(Testimony given at hearing).....	3,170 76	3,583 12	.....	412 36
1913.....	.....	3,170 76	2,696 03	474 73	.....

Apparently the accounts of this utility have not been kept very accurately. The annual report for 1912 shows net earnings of $382.76. An inspection of the books made in August 1910 by a representative of the Commission in connection with an application to increase the street lighting rate shows that there was a deficit of $290.56. The memorandum submitted at that time says (*In re Appl. Mt. Horeb El. Lt. Co.* 1910, 6 W. R. C. R. 44–46): "From records, uncertain because of incompleteness of entry and illegibility, the amount of business for the year ending August 1, 1910, has been taken as follows". The revenues and expenses as shown in the table are then given. Further on this memorandum says, "Owing to certain indebtedness of the owner of this utility to large consumers of electric current, no revenues are reported from these customers, but instead the personal account of the owner is credited to the amount of such revenue. There are at least two such instances".

Some time during the fiscal year 1911 the plant was sold and the annual report for that year, though it covers only six months, shows a deficit of $331.81. The next year we find net earnings of $400.62. As already explained, on November 1, 1912, the plant was again sold, at which time the present owners assumed

control. The report for the fiscal year 1912 shows a deficit of $84.04. The testimony given at the hearing, however, shows a deficit for the same period of $412.36. An itemized statement of the income account as exhibited in the last annual report and as presented at the hearing follows:

	Presented at the hearing.	Annual report.
Commercial lighting	$2,702 76	$2,702 76
Street lighting	468 00	468 00
Total revenues	$3,170 76	$3,170 76
Steam generation	.....	$1,787 01
Fuel, etc	$1,787 01	.....
Engineers' wages	443 55	.....
Distribution labor	221 77	.....
Maintenance labor	221 77	.....
Consumption:		
Street lighting	132 17	132 17
Commercial lighting	396 53	396 53
Commercial expenses	.....	558 77
General expenses	322 82	322 82
Taxes	57 50	57 50
Total expenses	$3,583 12	$3,254 80
Deficit	$412 36	$84 04

An inquiry by a representative of the Commission on a visit to Mt. Horeb disclosed the fact that the item "engineers' wages" as shown in the income account presented at the hearing is included in the item "steam generation" in the annual report. In the same manner the item "distribution labor" is included in "commercial lighting" and "maintenance labor" is included in "general expenses". As the items "commercial lighting" and "general expenses" are the same in both income accounts, and as the items "fuel" and "steam generation" also are equal, it would appear that the total of the expenses as presented at the hearing is overstated $887.09, and that instead of a deficit there is an excess of $474.73 available for depreciation and interest.

The annual report shows $558.77 under commercial expenses. This, as disclosed by inquiry, is merely the debit balance of the merchandise account which ordinarily should appear under non-operating revenues. We find, however, that material used in construction was charged to this account, which explains the large debit balance, and justifies the exclusion of this item entirely, as it should have been charged to capital and not revenues. We understand that it has been the practice of the company to

sell electric merchandise at a small profit; consequently the account non-operating revenues should show a credit balance. In 1910 there was such a balance amounting to $35 and in 1911 one amounting to $242.25. None appeared, however, in the 1912 report. From the foregoing we are inclined to believe that $474.73 represents quite closely the amount available for depreciation, interest, and profits for the year 1913. On the basis of a fair value of $13,600 this would be a return of 3.48 per cent which, of course, would not be enough to cover depreciation alone.

In determining what rate the company is entitled to charge we have made two computations, one based on revenues and expenses and conditions existing before the method of generation was changed from steam to producer gas, and the other based upon an estimate of what the expenses and sales will be under the new conditions.

The following table shows the expenses for the year ending June 30, 1913, as adjusted, divided between capacity and output expenses and between commercial and street lighting. The expenses shown include interest, depreciation and taxes on a fair value of $8,000 used by the Commission in passing upon the application made by this utility in 1910 for authority to increase its rates for street lighting (1910, 6 W. R. C. R. 44–46).

BASIS I.

	Capacity.	Output.	Total.
Commercial lighting	$1,243 91	$1,822 48	$3,066 39
Street lighting	202 50	347 14	549 64
Total	$1,446 41	$2,169 62	$3,616 03

As stated above, it is necessary to make an estimate of the kw-hr. sales and the operating expenses in order to determine a fair rate under the new method of generating current and the increased investment.

The company submitted a record of the current sold during the nine months ending July 31, 1913, which shows that 13,834 kw-hr. were sold to metered consumers during that time. On the basis of the average consumption per customer, it is estimated that about 2,786 kw-hr. would have been sold to the flat rate consumers if they had been on meters, making a total of

16,620 kw-hr. for the nine months. During the remaining three months of the year it is estimated that 3,902 kw-hr. more would have been used by the commercial consumers, making a total of 20,523 kw-hr. for the entire year if every customer were metered. At the time this record was compiled there were 162 customers who consumed an average of 127 kw-hr. per year. The president of the company stated that the company was quite certain of having 200 customers in a comparatively short time. Assuming that these 38 additional customers will use about as much current as the present customers do, it is estimated that the consumption by commercial consumers under the present operating period will be about 25,348 kw-hr. per year. The company, however, is going to give all-day service, that is, from 6 a. m. to 12 p. m., which will make the total for this class at least 26,148 kw-hr.

No power business as yet has been obtained. The president of the company, however, stated that he had done some soliciting which inclined him to believe that from 60 to 75 horse power was obtainable. Assuming that a connected load of 40 h. p. is actually obtained and that it is used on an average of one and one-half hours a day, we will have a power consumption of about 16,000 kw-hr. per year.

The street lighting at present is done by means of forty-two 75-watt series tungsten lamps burning on a moon-light schedule from dusk to 11 p. m. except Saturday nights when they burn to 11:30 p. m. The number of lamps is to be increased to fifty. When this increase is made it is estimated that the switchboard output to this class of service will be about 4,950 kw-hr. per year.

Assuming that there will be at least a 20 per cent loss in distributing the current to the commercial lighting and power customers and that the output to street lighting will be as stated above, it seems safe to estimate that about 57,635 kw-hr. will be generated.

During the month of October 1913 the plant under the new method of generation used about seven tons of buckwheat anthracite coal, and generated about 1,500 kw-hr. according to an estimate of the manager. Reducing this to a unit basis, we find that about 9.5 lb. of coal were used per kw-hr. generated. It seems safe to assume from the operation of this plant and other gas producer plants that when the operating period is extended to eighteen hours per day and the available power business is

taken on, that this plant will show a fuel efficiency of at least 6 lb. per kw-hr. generated. On the basis of 57,635 kw-hr. output at the switchboard and coal at $5.40 per ton, which is the price now being paid by the company, this would mean a total fuel cost of about $934 per year.

The largest single item of expense will be that of labor. The operating force is to consist of one engineer at $55 per month, one general man at $50 per month and a manager at $80 per month. This means a total labor bill of $2,220 per year. The other expenses such as oil, gasoline, batteries and miscellaneous items, including repairs and lease of the land on which the plant is built, amounting to $7.50 per year have been placed at $535.

Following is a summary of the expenses enumerated above which, together with the fixed charges, represent the amount that must be paid by the users of electricity in order to yield a reasonable return to the utility:

Fuel	$934.00
Labor	2,220.00
Oil	200.00
Gasoline	25.00
Batteries	10.00
Miscellaneous	300.00
Total	$3,689.00
Interest, depreciation and taxes	1,700.00
Total	$5,389.00

The next table shows the total probable cost under the new operating conditions divided between capacity and output expenses and between the different classes of consumers:

BASIS II.

	Capacity.	Output.	Total.
Commercial lighting	$1,310 51	$1,779 60	$3,090 11
Commercial power	633 36	1,109 89	1,743 25
Street lighting	206 73	348 91	555 64
Total	$2,150 60	$3,238 40	$5,389 00

The nature of the electric business is such that the cost consists of a capacity charge which depends upon the demand and an output charge that varies directly with the quantity of current sold. The cost of current per unit of output therefore varies

with the number of hours' use per day. The following table shows the variable cost for commercial lighting upon the two bases which we have been considering:

No. hours use of load per day.	Basis I.			Basis II.		
	Capacity.	Output.	Total.	Capacity.	Output.	Total.
1	8.4 cts.	8.9 cts.	17.3 cts.	7.2 cts.	6.8 cts.	14.0 cts.
2	4.2 "	8.9 "	13.1 "	3.6 "	6.8 "	10.4 "
4	2.1 "	8.9 "	11.0 "	1.8 "	6.8 "	8.6 "
6	1.4 "	8.9 "	10.3 "	1.2 "	6.8 "	8.0 "
8	1.1 "	8.9 "	10.0 "	.9 "	6.8 "	7.7 "
10	.8 "	8.9 "	9.7 "	.7 "	6.8 "	7.5 "

A consideration of the costs shown on the two bases in the foregoing table suggests a rate of 14 cts. per kw-hr. for the first 30 hours use per month of the active load, 12 cts. per kw-hr. for the next 60 hours and 9 cts. per kw-hr. for the balance.

In order to determine the probable revenue from such a rate schedule an analysis has been made of the current consumed by the commercial lighting customers. This shows that of the 20,523 kw-hr. sold during the year ending November 1, 1913, 10,203 kw-hr. fall in the primary group, 8,127 in the secondary, and 2,193 in the excess. On the basis of this analysis it is estimated that of the 26,148 kw-hr. which we have used as the probable commercial lighting consumption when normal conditions under the new method of generation are reached, 13,015 kw-hr. will fall in the primary group, 10,377 in the secondary, and 2,756 in the excess. The revenue from each of these groups on the basis of the rate suggested is exhibited in the next table which shows the revenue and cost for each class of service for the two bases under consideration. The revenue from minimum bills is based on the assumption that the primary rate will be 14 cts. per kw-hr. for current and that no bill will be rendered for less than $1 per month. The revenue from commercial power is based on a fixed charge of 75 cts. per horse power of connected load and an energy charge of 5 cts. per kw-hr. for all current consumed. The revenue from street lighting is based on a rate of $15 per lamp per year. The reason no revenue or expenses appear for commercial power on Basis I is, of course, that the company has no such business at the present time.

	Basis I.		Basis II.	
	Probable revenue.	Cost.	Probable revenue.	Cost.
Commercial lighting:				
Primary	$1,428 42	.....	$1,822 10	.....
Secondary	975 24	.....	1,245 24	.....
Excess	197 37	.....	248 04	.....
Minimum bills	266 11	.....	328 43	.....
Total	$2,867 14	$3,066 39	$3,643 81	$3,090 11
Commercial power:				
Fixed charge	.....	.....	$300 00	.....
Energy charge	.....	.....	800 00	.....
Total	.....	.....	$1,100 00	$1,743 25
Street lighting	$750 00	$549 64	$750 00	$555 64
Grand total	$3,617 14	$3,616 03	$5,493 81	$5,389 00
Net excess	$1 11	.....	$104 81	.....

It will be noted that on Basis I there is an excess amounting to $1.11 of revenue over cost and that on Basis II there is a similar excess of $104.81. The relation of cost to revenue for the different classes of service, however, does not correspond so closely. In commercial lighting, for instance, on Basis I the revenues are less than the cost while on Basis II they are considerably more; consequently it would seem inadvisable either to increase or decrease the rate suggested for this class of business. In the commercial power class the cost exceeds the revenue. The cost as shown is, of course, the result of an apportionment. If a different theory of apportionment had been used, a lower figure might have resulted. The company is attempting to work up its power business, which it is likely to have some difficulty in doing if the rate is much higher; therefore it seems best under the circumstances to establish the rate suggested. Upon both bases we find that the revenue from street lighting exceeds the cost. The street lighting, however, has been changed recently, and it may be that not enough has been included in the cost for renewals and maintenance. The rate as proposed will be a reduction of $3 from the present rate which seems to be about as much of a reduction as is justified at this time. In all these instances we have a situation where the cost does not exactly fit the value of the service. If the commercial lighting rate were increased, it might be that the contemplated increase in business would not materialize, in which event the rate to some other class of service might have to be increased. Taking all the circumstances of the case into consideration it seems that the rates as

suggested above will be fair and just both to the company and to the public.

In computing monthly bills under the suggested rate for incandescent lighting it is to be remembered that the rate is based both on the size of the installation and the current consumed, whereas the schedule now used by the company is based on consumption only. The following examples will illustrate the working of the new schedule:

Computation of Monthly bill for a Residence.

Connected load.
15 40-w. lamps = 600 watts
Active load.
60% of the first 500 watts = 300 watts
33⅓% of the balance = 33 "
Total active load..... 333 "
Current consumed—by meter = 13 kw-hr.
First 30 hours use per month of active load, 333 x 30 = 9.99 kw-hr.
Next 60 hours use per month of active load, 333 x 60 = 19.98 kw-hr.
All over 90 hours use per month of active load, 333 x 90 = 29.97 kw-hr.

For practical purposes the decimals can be omitted and the nearest whole number used and the bill computed as follows:

First 10 kw-hr. at 15 cts. = $1.50
Next 3 " 13 " = .39
Total gross bill..... $1.89
Discount ..... .13
Total net bill..... $1.76

Computations of Monthly Bill for a Store.

Connected Load.
50 60-watt lamps = 3,000 watts

Active load.
70% of the first 2,500 watts = 1,750 watts
55% " balance = 275 "
Total active load..... 2,025 "

Current consumed—by meter = 195 kw-hr.
First 30 hours use per month of active load 2,025 x 30 = 60.75 kw-hr.
Next 60 hours use per month of active load 2,025 x 60 = 121.5 kw-hr.
All over 90 hours use per month of active load 2,025 x 90 = 182.25 kw-hr.

Computation of bill.
First 61 kw-hr. at 15 cts. = $9.15
Next 121 " 13 " = 15.73
Next 13 " 10 " = 1.30
Total gross bill..... $26.18
Discount 1.95
Total net bill..... $24.23

IT S THEREFORE ORDERED, That the Mt. Horeb Heat, Light and Power Company be and hereby is authorized to discontinue its present schedule of rates and place in effect the following:

COMMERCIAL LIGHTING.

For all lighting service furnished residences and businesses (hereinafter specifically referred to as classes A, B and C) including such incidental use of appliances for heating and power used on lighting circuits and passing through the same meter, and measured by a meter or meters owned an installed by the company a charge of

Primary rate: 14 cts. net or 15 cts. gross per kilowatt-hour for current used equivalent to or less than the first thirty hours' use per month of the active connected load.

Secondary rate: 12 cts. net or 13 cts. gross per kilowatt-hour for additional current used equivalent to or less than the next sixty hours' use per month of active connected load.

Excess rate: 9 cts. net or 10 cts. gross per kilowatt-hour for all additional current used in excess of the above ninety hours' use per month of active connected load.

Active connected load shall in each case be a fixed percentage of the total connected load of the lamps installed on the consumer's premises, excluding appliances.

Class A includes residences, flats and private rooming houses. Where the total connected load is equal to or less than 500 watts nominal rated capacity, 60 per cent of such total connected load shall be deemed active; where the installation exceeds 500 watts nominal rated capacity, 33⅓ per cent of such part of the total connected load over and above 500 watts shall be deemed active.

Class B includes stores, saloons, offices, banks, halls, theaters and all others not herein otherwise specifically provided for. In this class 70 per cent of the first 2.5 kw. and 55 per cent of all additional connected load shall be deemed active.

Class C includes churches, industrial establishments, livery stables, garages, barns, club rooms, hotels, schools, libraries, city hall and hospitals. In this class 55 per cent of the connected load shall be deemed active.

Minimum Bill. The minimum bill shall be $1 per month. Where the utility is unable to read meter after reasonable effort

the fact should be plainly indicated upon the monthly bill, the minimum charge assessed and differences adjusted with the consumer when the meter is again read.

Discount. Utility shall bill all consumers at the gross rate, and the difference between the gross and net rates above specified, or one cent per kilowatt-hour, shall constitute a discount for payment on or before the 10th of the month.

Reconnection of meter. For the reconnection of a meter for the same consumer upon the same premises a charge of $1 is deemed reasonable.

COMMERCIAL POWER.

For current used for power purposes, and measured by meters owned and installed by the company, the rate shall be:

Service charge: 75 cts. net per month for the first horse power or fraction thereof and 75 cts. for each additional horse power of connected load.

Energy charge: 5 cts. net or 6 cts. gross per kw-hr. for the first 50 hours' use per month of the connected load, and 3 cts. net or 4 cts. gross for all use of the connected load in excess of 50 hours monthly.

The provisions for discount and reconnection of meters as stated under the schedule for commercial lighting shall also apply to power.

STREET LIGHTING.

The rate for street lighting shall be $15 per 75-watt lamp per year and shall be paid in equal monthly installments.

MERCHANTS AND MANUFACTURERS ASSOCIATION OF MILWAUKEE

vs.

WELLS FARGO AND COMPANY,
UNITED STATES EXPRESS COMPANY,
AMERICAN EXPRESS COMPANY,
NORTHERN EXPRESS COMPANY,
NATIONAL EXPRESS COMPANY,
ADAMS EXPRESS COMPANY,
WESTERN EXPRESS COMPANY.

IN RE INVESTIGATION BY THE RAILROAD COMMISSION OF WISCONSIN OF EXPRESS RATES CHARGED IN WISCONSIN.

Decided Jan. 23, 1914.

The date on which the order issued in this matter on May 20, 1913, (12 W. R. C. R. 1, 43) should become effective has been postponed from time to time pending the decision of the appeal from the order to the circuit court for Dane county and the making by the Commission of certain additional investigations. The latest postponement makes the order effective on Feb. 1, 1914. The respondent express companies, however, desire to put into effect rates for temporary use which will be in harmony with the interstate express rates recently established by the interstate commerce commission to become effective Feb. 1, 1914.

Held: Though the rates proposed by the express companies do not entirely agree with the Commission's ideas of what those rates should be, it is the opinion of the Commission that, in view of the fact that the rates as proposed will confer many benefits on the shippers of the state, these rates should be permitted to become effective for the time being with the exception of such as are higher than the interstate rates between the same blocks would be.

The respondents are therefore ordered to put into effect the rates, classifications and bases of charge shown in the tariffs Wis. R C. numbers 5, 6, 7 and 9 filed by them with the Commission, provided that where block rates between points in Wisconsin as named in these tariffs are higher than the interstate rates effective Feb. 1, 1914, between the blocks in which such points are located, the rates named in the tariffs shall be reduced to an equality with the interstate rates. The rates prescribed are to become effective immediately upon the filing of the tariffs in the manner required by law. The order of May 20, 1913, (12 W. R. C. R. 1, 43) is rescinded.

An order was entered by this Commission in the above entitled case on May 20, 1913 (12 W. R. C. R. 1, 43), establishing a new schedule of express rates to be applied by the respondent express

companies on traffic within the state of Wisconsin. Proceedings were commenced by the express companies in the circuit court for Dane county upon appeal from the Commission's order, and, owing to the pendency of these proceedings and to certain additional investigations which were being made by this Commission, orders were entered from time to time postponing the date on which the order of May 20, 1913, should become effective. The latest of these postponement orders dated December 31, 1913, made the effective date of the Commission's rate order February 1, 1914.

The respondent express companies have made preparations to put into effect throughout the United States the rates and methods of charge established by the interstate commerce commission in its express rate decision. These interstate rates are to be made effective February 1, 1914, and it seems highly desirable that until this Commission can complete its own investigations so as to make a final order as to intrastate express rates for Wisconsin the express companies should be permitted to charge, upon intrastate traffic, rates which will be in harmony with the interstate rates. We have examined carefully the schedules of rates so proposed to be established for temporary use in this state, and do not find them so far at variance with the results of our own investigations to date as to warrant the Commission in delaying the express companies' program of uniform application of interstate schedules. In many instances the rates proposed by the express companies do not entirely agree with the Commission's ideas of what these rates should be, but inasmuch as with the institution of any entirely new system of rates many conditions are necessarily encountered which will require later adjustment, and in view of the fact that the rates as proposed will confer many benefits on the shippers of the state, it is the opinion of the Commission that they should be permitted to become effective for the time being. In a few cases we find that the rates proposed by the express companies to be applied between Wisconsin points are higher than the interstate rates between the same blocks would be, and in such cases our order will require that the interstate rates between such blocks be made the maximum.

It is to be understood that the rate schedule prescribed in the subjoined order is not necessarily the final order in the present proceeding, but that when the Commission's investigations have

been concluded it may be necessary to enter an additional order making certain revisions of the rates herein prescribed.

The schedules of rates proposed to be established by the express companies on February 1, 1914, are contained in the several tariffs which have been submitted to this Commission for examination and approval. These tariffs will be designated in the order by their numbers, since an enumeration of the various rates and bases of application in this order would cover many pages. Since the express companies desire to make these rates effective February 1, 1914, which leaves less than the ordinary time for posting and publication of tariffs, permission will be granted for effectiveness of the rates immediately upon the proper filing of the tariffs as required by law.

IT IS THEREFORE ORDERED, That the respondents, Wells Fargo & Company, United States Express Company, American Express Company, Northern Express Company, National Express Company, Adams Express Company and Western Express Company discontinue the rates now in effect upon their various lines for transportation of express matter between points in the state of Wisconsin, and that they substitute therefor the rates, classifications and bases of charge as shown in the tariffs Wis. R. C. numbers 5, 6, 7 and 9, filed with this Commission by F. G. Airy as agent for the respondent express companies; provided that where block rates between points in Wisconsin as named in such tariffs are higher than the interstate rates effective February 1, 1914, between the blocks in which such points are located, the rates named in such tariffs shall be reduced to an equality with such interstate rates.

The order of this Commission in this proceeding dated May 20, 1913, is hereby rescinded.

Permission is hereby granted for the effectiveness of the rates prescribed in this order immediately upon the filing of the tariffs in the manner required by law.

WHITE ROCK QUARRY COMPANY

vs.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted Jan. 13, 1914. Decided Jan. 28, 1914.

The petitioner alleges that the charge of 6 cts. per cwt. exacted by the respondent for the transportation of 77 carloads of granite blocks from Ablemans to Milwaukee is unusual and exorbitant and asks for refund of the excess of the amount collected above the amount assessable on the basis of a rate of 4 cts. per cwt. which the petitioner alleges is a reasonable rate, the rate now in effect and the rate in effect at the time the shipment moved from Red Granite, Montello, Stevens Point and other Wisconsin points to Milwaukee and Chicago.

Held: For reasons stated in *Milwaukee Sand Stone Co. v. C. & N. W. R. Co.* 13 W. R. C. R. 671, the charge complained of was unusual and exorbitant and the rate of 4 cts. per cwt. is a reasonable rate for the services rendered. Refund is ordered on this basis.

The petitioner is a corporation engaged in quarrying stone at Ablemans, Wis. It alleges that on and between June 7, 1913, and September 16, 1913, it shipped seventy-seven carloads of granite blocks from Ablemans, Wis., to Milwaukee, Wis., upon which the respondent railway company charged and exacted a rate of 6 cts. per cwt., which is 2 cts. per cwt. in excess of the rate now in effect and the rate in effect at the time the shipments moved from Red Granite, Montello, Stevens Point and other Wisconsin points to Milwaukee and Chicago; that such rate of 6 cts. was unusual and exorbitant and that a rate of 4 cts. per cwt. would have been reasonable and just; that as a result petitioner was charged on said shipments the sum of $1,389.38 in excess of what it should have been charged had a reasonable rate been in effect at the time the shipments moved. Wherefore, the petitioner prays that the respondent be authorized and directed to refund to it the said sum of $1,389.38.

No answer was filed by the respondent.

The matter came on for hearing on January 13, 1914. The petitioner was represented by *L. J. Pierson* and the respondent by *Robert H. Widdicombe,* its attorney.

The facts in this case are identical with those stated in the case of *Milwaukee Sand Stone Co. v. C. & N. W. R. Co.* 1914, decided herewith (13 W. R. C. R. 671). For the reasons stated in the decision in said case, we find and determine that the charge of 6 cts. per cwt. exacted by the respondent on the aforesaid shipments of granite paving blocks was unusual and exorbitant, and that the rate of 4 cts. per cwt. is a reasonable rate for the transportation services rendered. An examination of the paid expense bills filed herein shows that the total amount of the excess charges is $1,389.38, as alleged.

NOW, THEREFORE, IT IS ORDERED, That the Chicago & North Western Railway Company be and the same is hereby authorized and directed to pay to the petitioner, the White Rock Quarry Company, the said sum of $1,389.38.

MILWAUKEE SAND STONE COMPANY

vs.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted Jan. 13, 1914. Decided Jan. 28, 1914.

The petitioner alleges that the charge of 6 cts. per cwt. exacted by the respondent for the transportation of nine shipments of stone paving blocks from Ablemans to Milwaukee was excessive and prays for refund of the excess of the amount collected above the amount assessable on the basis of a rate of 4 cts. per cwt., which is the rate in effect for similar shipments moving from Red Granite, Montello, Stevens Point and other Wisconsin points to Milwaukee and Chicago. The respondent put the rate of 4 cts. in effect after the shipments in question moved and concedes that the petitioner's claim for reparation is valid.

Held: The charge complained of was unreasonable and exorbitant. The reasonable rate would have been 4 cts. per cwt. Refund is ordered on this basis.

The petitioner operates a quarry at Ablemans, Wis. It alleges that the respondent railway company has exacted 2 cts. per cwt. excessive freight on nine shipments of stone paving blocks moving over its lines from Ablemans to Milwaukee, Wis., on and between April 4 and June 4, 1913, which amounts to $168.96; that such charge was 2 cts. per cwt. in excess of rates on stone paving blocks moving from Red Granite, Montello, Stevens Point and other Wisconsin points to Milwaukee and Chicago. Wherefore, petitioner prays that it be awarded reparation in said amount.

The railway company did not file any formal answer. The matter came on for hearing on January 13, 1914. The petitioner was represented by *L. J. Pierson,* and the respondent by *Robert H. Widdicombe,* its attorney.

It appears that about a year before the filing of the complaint herein, the petitioner leased of the respondent railway company a quarry at Ablemans, Wis.; that at the time of leasing said quarry there was a rate of 6 cts. per cwt. on paving blocks to Milwaukee, but no paving blocks had ever been shipped prior

thereto. The respondent also operates a quarry at Stevens Point, Wis., and the rate in effect from Stevens Point upon paving blocks to Milwaukee is 4 cts. per cwt. The rate on granite blocks from Montello, Red Granite and Lohrville is 4 cts. per cwt. It appears that before the shipments in question moved, the petitioner requested the respondent railway company to give it a rate from Ablemans lower than that in effect from the other points named. This the respondent refused to do, but in lieu thereof published a rate of 4 cts. per cwt. from Ablemans to Milwaukee which did not become effective until after the shipments in question moved. The petitioner, expecting a lower rate, entered into contracts for the shipment of granite blocks from Ablemans to Milwaukee on a basis of 4 cts. per cwt. freight. The railway company concedes that the petitioner's claim is valid and that the reparation should be awarded.

Under the circumstances we find and determine that the rate of 6 cts. per cwt. charged the petitioner on the aforesaid shipments of granite blocks from Ablemans to Milwaukee was unusual and exorbitant, and that the reasonable rate that should have been in effect and applicable to such shipments is 4 cts. per cwt. From an examination of the paid expense bills it appears that the excessive charge is $168.96 as alleged.

NOW, THEREFORE, IT IS ORDERED, That the Chicago & North Western Railway Company be and the same is hereby authorized and directed to refund to the petitioner, the Milwaukee Sand Stone Company, the said sum of $168.96.

MILWAUKEE STRUCTURAL STEEL COMPANY

vs.

CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Submitted Jan. 13, 1914. Decided Jan. 28, 1914.

The petitioner alleges that the charge assessed by the respondent for the transportation of 6 carloads of material for use in the construction of a paint and plating shop for the respondent at West Milwaukee was unusual and exorbitant and contends that the charge should have been made on a switching basis, inasmuch as the length of the haul was only one and a half miles and other points in the immediate vicinity and beyond are placed on a switching basis. When the shipments in question moved the respondent's switching tariff provided for switching rates between industries named in the tariff, but the consignee in the instant case, not being named in the tariff, was not entitled to receive the switching rates and was charged the distance rate for five miles or less. The respondent, however, subsequently modified its tariff to eliminate the discrimination presented by such cases.

Held: The charge complained of was unusual and exorbitant. The reasonable charge would have been $5 per car and refund is ordered on this basis.

The petitioner is engaged in the manufacture of structural steel at Nineteenth street and St. Paul avenue, in the city of Milwaukee. It alleges that on and between June 27 and September 2, 1913, it required the use of six cars for transportation of material for use in the construction of a paint and plating shop being erected at West Milwaukee by the respondent railway company, and that the charges assessed for the use of the six cars and the amount paid thereon was $80.10; that in view of the fact that the haul of the said cars was only one and a half miles, and the fact that the points in the immediate vicinity and beyond are placed on a switching basis, the charges exacted were unusual and exorbitant. Wherefore, petitioner prays that refund be made to it upon the basis of a switching charge for the service rendered.

The respondent railway company, answering the petition, sets forth that the charges were applied on the basis of the fourth

class rate of 6 cts. less than carloads and sixth class rate of 4 cts. carloads, which is the Wisconsin distance rate for five miles or less, as per tariff G. F. D. No. 6500–B; that supplement No. 31 to tariff G. F. D. No. 2543 A, effective February 19, 1913, names a switching rate of $5 per car from the Milwaukee Structural Steel Company's plant at Muskego avenue to the respondent's shops and buildings at West Milwaukee; that supplement No. 35 to tariff G. F. D. No. 2543–A, effective September 2, 1913, provides as follows:

"The rates named in tariff, as amended, to or from industries with private sidings, will also apply on traffic for other parties using such facilities for traffic connected with the business of the party listed in said tariff, supplements thereto or reissues thereof, as the party having the private siding.

"This rule must not be construed as authorizing the use of individual or private sidetracks for general traffic which should be handled through the public facilities of the carrier."

The respondent further shows that while the petitioner's plant is shown as an industry in the tariff referred to, the material in question was consigned to a party not named in the Milwaukee switching tariff; that said supplement No. 35 was made effective for the purpose of switching of the kind involved in this case, but that this supplement did not take effect until after the shipments in question moved.

The matter came on for hearing on January 13, 1914. The petitioner was represented by *J. F. Henry,* secretary and treasurer of the company, and the respondent by *J. N. Davis.*

It appears that when the shipments in question moved, the respondent's switching tariff provided for switching rates between industries named in the tariff. The consignee in this case was the Northern Construction Company, which was engaged in erecting a building for the respondent railway company at West Milwaukee. It was not named in the tariff, and therefore was not entitled to the switching rate.

Under the circumstances the railway company applied the only tariff which it could legally apply, which was the Wisconsin distance tariff. Of course, it is conceded that the situation presented a discrimination which could not be justified. The railway company consequently corrected its tariff by providing for such cases. Under the circumstances we find and determine

that the charge exacted of the petitioner on the aforesaid shipments was unusual and exorbitant, and that the reasonable charge for the transportation services thus rendered is $5 per car. The number of cars shipped was six, and according to the paid expense bills filed it appears that the amount paid for such shipments was, as alleged, $80.10. The reparation, therefore, amounts to $50.10.

NOW, THEREFORE, IT IS ORDERED, That the Chicago, Milwaukee & St. Paul Railway Company be and the same is hereby authorized and directed to refund to the petitioner, the Milwaukee Structural Steel Company, the said sum of $50.10.

IN RE PROPOSED EXTENSION OF THE LINES OF THE FOND DU LAC RURAL TELEPHONE COMPANY IN THE TOWN OF TAYCHEEDAH, FOND DU LAC COUNTY, WISCONSIN.

Submitted Dec. 30, 1913. Decided Jan. 5, 1914.

The Fond du Lac Rural Tel. Co. filed notice with the Commission of its intention to extend its telephone line in the town of Taycheedah, Fond du Lac county. The Eastern Wisconsin Tel. Co. objects to the proposed extension. The applicant desires to make the extension for the purpose of serving two residences. The occupant of one of these has connection with the lines of the objector over a line owned by himself and is in a position to extend his service to the occupant of the other residence with much less additional construction than would result if either the applicant or the objector were to extend its lines to reach him.

Held: Public convenience and necessity do not require the extension proposed. If the charges exacted for service rendered with existing connections are excessive or if the service is inadequate the proper remedy is to make complaint in the regular way rather than to invite a duplication of telephone systems.

The Fond du Lac Rural Telephone Company filed with this Commission on December 16, 1913, its notice of a proposed extension of its line in the town of Taycheedah, Fond du Lac county. The extension as proposed was to consist of wires strung on the poles of a telephone line owned by Frank Nett. The Eastern Wisconsin Telephone Company filed its objection to the extension, and the matter was set for hearing.

At the hearing, which was held at Fond du Lac on December 30, 1913, the Fond du Lac Rural Telephone Company was represented by *Reilly, Fellenz & Reilly,* and the Eastern Wisconsin Telephone Company by *J. E. McMullen.*

It appears from the testimony that both the companies involved in this case have lines extending out of Fond du Lac for rural service in the vicinity of the proposed extension. The objector's local line runs to within about two miles of the points to which the extension is intended to be made, and another local line of the objector, which, however, connects with a different switchboard and necessitates a toll charge in reaching Fond du Lac, comes within about a mile of these points. The

applicant's line now extends to within about fifty rods of the Nett line, and the proposed extension is to run for a distance of about two and a half miles on the poles of the Nett line to reach the residences to which the service of the applicant is desired. It thus appears that the Eastern Wisconsin Telephone Company's line is considerably nearer the residences in question than the line of the applicant.

The two residences to which the applicant desires to extend its line are those of Frank Nett and J. J. O'Laughlin. Mr. Nett's residence is now served by the telephone line which he owns and Mr. O'Laughlin has no service at present, but the arrangement is that Mr. Nett will extend his pole line to Mr. O'Laughlin's residence and the applicant is to string its wires on these poles. Mr. O'Laughlin's house is about one-half mile west of Mr. Nett's. It seems that the objective point of the persons desiring the applicant's service is the city of Fond du Lac, and that they are not particularly interested in the local service which would be obtainable along the applicant's line on the way into this city. Mr. Nett maintains a business office at Peebles, and it is at this point that his telephone line terminates. The Eastern Wisconsin Telephone Company runs two lines through Peebles, one a toll line, and the other a local farm telephone line. These lines, as well as the Nett line, run into a store at Peebles and in this store is a switch by which the Nett line can be connected with the Eastern Wisconsin Telephone Company's lines into Fond du Lac. Thus, anyone served by the Nett line can reach Fond du Lac over the objector's line through the switch at Peebles. The charge for this service is 10 cts. per message. The applicant, if permitted to extend its lines in the manner proposed, would give direct service to Fond du Lac without any switching, and that service would be included in the monthly rate paid by the subscriber without additional toll charges.

It appears that Mr. O'Laughlin, who now has no telephone service, applied some time ago to the Eastern Wisconsin Telephone Company for service, and that that company offered to serve him with its line nearest his residence, which, as before stated, would have connected him with a switchboard in the opposite direction from Fond du Lac and would have necessitated the payment of a toll to reach the latter city. Connection with the Eastern Wisconsin Telephone Company's line running di-

rectly into Fond du Lac was refused Mr. O'Laughlin for the reason that such connection would necessitate a considerably longer pole lead and Mr. O'Laughlin was apparently the only person who would take service on the line thus extended.

The situation as brought out by the evidence is that Mr. Nett now has connection with Fond du Lac over his own telephone line in connection with the Eastern Wisconsin Telephone Company's line through the switch at Peebles, and he pays 10 cts. for this service; while Mr. O'Laughlin has no service at all, but can easily obtain it through an extension of Mr. Nett's line to his house with much less additional construction than would result if either the applicant or the objector were to extend its line to reach him. It does not appear that Mr. Nett pays an excessive amount for the service he receives in reaching Fond du Lac and if in fact the price were excessive the remedy would be to make complaint in the regular way rather than to invite a duplication of telephone systems in the region in question. Similarly, if the service Mr. Nett obtains under the present arrangement in reaching Fond du Lac is not adequate, his first remedy is to make complaint and secure an order requiring adequate service. If it should appear as the result of such complaints that the situation is not such as to make adequate service at reasonable rates possible to Mr. Nett over the lines as now connected, it would then be time to take steps toward introducing a competing line into the neighborhood. As far as Mr. O'Laughlin is concerned, it seems that his situation is similar to that of Mr. Nett. The extension of Mr. Nett's line would give him the same kind of service that Mr. Nett himself now obtains at his residence, and the same reasons which operate against the extension of the applicant's line to reach Mr. Nett apply also to Mr. O'Laughlin.

We therefore find and determine that public convenience and necessity do not require the extension of the line of the Fond du Lac Rural Telephone Company in the town of Taycheedah, Fond du Lac county, Wis., in the manner proposed in the notice filed with the Commission in this proceeding.

C. E. McMILLAN
vs.
CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

HOWARD TEASDALE
vs.
CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY, CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Decided Feb. 5, 1914.

Two petitions are involved in this proceeding. The first alleges that the depot maintained by the C. & N. W. Ry. Co. at the city of Sparta is inadequate and asks that the Commission take such action as it may deem just in the premises. The second petition, filed under ch. 69, laws of 1913, alleges that public convenience and necessity require the erection of a union station at Sparta and prays that the C. & N. W. Ry. Co. and the C. M. & St. P. Ry. Co. be required to establish such a station. The C. & N. W. Ry. Co. offers to erect a new depot on its line in 1914, subject to the approval of the Commission, and the first petitioner accepts this as satisfying his complaint. The C. M. & St. P. Ry. Co. has recently improved its depot in compliance with the order issued in *McMillan v. C. M. & St. P. R. Co.* 1912, 10 W. R. C. R. 556. Sparta is the junction point of the Wyeville and Elroy lines of the C. & N. W. Ry. Co. and of the main line of the C. M. & St. P. Ry. Co. and its Viroqua branch and passengers transfer to some extent between the stations of the two railroads.

Held: Public necessity does not require the construction of a union station at Sparta. The second petition is therefore dismissed. With respect to the first petition it is ordered that the C. & N. W. Ry. Co. erect a modern passenger depot at Sparta as stipulated by the attorneys in the matter. June 1, 1914, is considered a reasonable date at which the depot shall be completed and open for public use.

The petition of C. E. McMillan, mayor of Sparta in Monroe county, alleges that the depot maintained by the Chicago & North Western Railway Company at that city is inadequate, and asks that the Commission take such action as it may deem just in the premises.

The Chicago & North Western Railway Company, in its answer, alleges that its station facilities at Sparta are similar to those maintained at other points of the same importance and are adequate for all requirements.

A hearing was held at Sparta on August 11, 1913, at which *S. S. Rice* appeared for the petitioner and *C. A. Vilas* for the respondent.

At this hearing the respondent offered to erect a new depot at Sparta in 1914, subject to the approval of the Commission, and this was agreed to by the petitioner as satisfying his complaint. It was stipulated that an order should be issued requiring the new station to be completed by June 1, 1914.

On August 7, 1913, Howard Teasdale filed with the Commission a petition under ch. 69, laws of 1913, alleging that public convenience and necessity require the erection of a union station at Sparta and praying that the Chicago & North Western Railway Company and the Chicago, Milwaukee & St. Paul Railway Company be required to establish such a station.

The Chicago, Milwaukee & St. Paul Railway Company, in its answer, alleges that its existing station at Sparta is adequate and denies that public necessity requires the erection of a union depot. It therefore asks that the complaint be dismissed.

The Chicago & North Western Railway Company, in its answer, denies that public convenience or necessity require the erection of a union depot as prayed for, and alleges that it has made provision for a new depot at Sparta at or near the site of the existing structure. The dismissal of the complaint is therefore asked.

The matter was heard at Sparta on September 25, 1913. The petitioner, *Howard Teasdale,* appeared in his own behalf. The Chicago & North Western Railway Company was represented by *C. A. Vilas* and the Chicago, Milwaukee & St. Paul Railway Company by *P. C. Eldredge.*

The testimony taken at this hearing shows that the depot of the Chicago & North Western Railway Company is located at the foot of Water street, a short distance east of the crossing with the Viroqua branch. The Chicago, Milwaukee & St. Paul Railway Company's depot is situated at the intersection of that company's line and Walcott street, about three quarters of a mile northeast of the Chicago & North Western Railway Company's depot. Both stations are approximately an equal distance from the corner of Oak and Water streets, and are about equally accessible to residents of the city.

Sparta has a population of about 4,000. It is the junction point of the Wyeville and Elroy lines of the Chicago & North

Western Railway Company, and also of the main line of the Chicago, Milwaukee & St. Paul Railway Company and its Viroqua branch. The main lines of the two companies parallel each other from Tomah, Wis., to Winona, Minn. Witnesses testified that a considerable number of passengers transfer from one company's trains to those of the other company. Passengers on the Chicago, Milwaukee & St. Paul Railway Company's line from the west sometimes change cars at Sparta when bound for Wilton or other points on the Elroy–Madison line of the Chicago & North Western Railway Company. Similarly, passengers bound for points on the Viroqua branch from points on the Chicago & North Western lines are obliged to go from one station to the other at Sparta. Witness stated that from seven to twelve people usually leave incoming trains on the Viroqua branch when they stop at the crossing with the line of the Chicago & North Western Railway Company near that company's depot in order to avoid the long transfer by bus from the Chicago, Milwaukee & St. Paul Railway Company's station. The proprietor of the bus line which operates between the two stations testified that only about seven passengers a week transfer from one station to the other. It was said that some passengers who might otherwise change to the other line at Sparta now make the transfer at West Salem where the stations are closer together. Witnesses for the railways pointed out that facilities for transfer between their respective lines are now provided at La Crosse on the west and Camp Douglas on the east. The testimony shows that trains on the two lines bound for the same point pass through Sparta within a short time of each other. Thus if a person plans to take a Chicago & North Western train for a common point, and the train is late, he may with advantage make use of a train on the other line. Such a change could be more conveniently made if a union station were provided.

The railway companies have submitted statements of their passenger business at Sparta as follows:

Month.	C. & N. W. Ry. Co.				C. M. & St. P. Ry. Co.			
	Total.	Local.	Coupon.	Other.	Total.	Local.	Coupon.	Other.
May, 1912.....	$2,953.28	$2,590.42	$228.76	$134.10	$1,495.23	$1,180.97	$253.86	$60.40
June.....	3,632.17	2,772.55	761.32	98.30	1,977.06	1,449.18	484.29	43.59
July.....	3,106.60	2,491.82	529.38	85.40	2,148.67	1,629.42	497.28	21.97
Aug.....	5,151.74	4,344.10	753.64	54.00	2,642.36	2,148.22	455.70	38.44
Sept.....	4,137.51	3,420.71	615.70	101.10	1,974.90	1,490.37	459.18	25.35
Oct.....	3,349.16	2,695.65	575.61	77.90	2,260.95	1,540.42	625.40	95.13
Nov.....	3,775.00	3,176.80	511.80	86.40	2,067.46	1,509.45	469.70	88.31
Dec.....	3,359.24	2,630.59	667.50	61.15	2,306.39	1,395.88	854.93	53.58
Jan. 1913.....	2,870.51	2,549.38	243.58	77.55	1,649.50	1,166.68	462.85	19.97
Feb.....	2,828.78	2,465.81	339.67	23.30	1,334.69	1,013.16	256.61	64.92
March.....	3,519.76	3,016.28	438.03	65.45	1,687.39	1,336.94	299.58	50.87
April.....	3,579.41	2,934.76	557.04	105.61	1,683.03	1,298.29	339.39	45.35
Total.....	$42,081.11	$35,088.87	$6,022.03	$970.21	$25,222.63	$19,158.98	$5,458.77	$604.88

The petitioner suggested three locations for the proposed union station, as follows:

1. On Water street about 300 feet south of Oak street.
2. The site of the existing Chicago, Milwaukee & St. Paul Railway Company's depot.
3. About 300 feet east of the Water street crossing with the line of the Chicago & North Western Railway Company.

It appears that the establishment of a union depot at site 1 would necessitate backing trains into the station, and require a very large expenditure on the part of both companies. The choice of the present location of the Chicago, Milwaukee & St. Paul Railway Company's depot (site 2) would compel the Chicago & North Western Railway Company to change its route and purchase a new and expensive right of way. Railway officials testified that site 3, near the present location of the Chicago & North Western Railway Company's depot, would be the least expensive and most practicable site for a union depot, but that its choice would involve large expenditures for track changes on both lines and for the relocation of station equipment on the Chicago, Milwaukee & St. Paul Railway Company's line. The cost of the latter item was estimated by the company's superintendent at $12,250.

Both companies took the position that the transfer traffic is insufficient to warrant a union station and that satisfactory service can be rendered at separate stations. It was conceded by all witnesses that a union depot would be more convenient, but most of them, including the former and present mayor, testified

that in their opinion a union depot is not a public necessity at the present time.

From an examination of the testimony we do not find that there is a public necessity for the erection of a union station at Sparta. The transfer traffic is obviously insufficient to justify the expenditures necessary for such a depot, and the advantages which would accrue to the residents of the city are relatively slight. It should also be noted that improvements have been recently made at the Chicago, Milwaukee & St. Paul Railway Company's depot by order of this Commission in an action brought by the mayor of the city *(McMillan v. C. M. & St. P. R. Co.* 1912, 10 W. R. C. R. 556), and that in a similar action considered in this decision the Chicago & North Western Railway Company has volunteered to erect a new and adequate depot at Sparta. An order will therefore be entered in accordance with the stipulation of attorneys in the first case herein, and dismissing the latter complaint.

IT IS THEREFORE ORDERED, That the respondent, the Chicago & North Western Railway Company, erect a modern passenger depot at Sparta which shall be adequate for the traffic obtaining at that city, plans to be submitted to the Commission for approval.

IT IS FURTHER ORDERED, That the complaint of Howard Teasdale against the Chicago, Milwaukee & St. Paul Railway Company and the Chicago & North Western Railway Company be and the same is hereby dismissed.

June 1, 1914, is considered a reasonable date at which the station ordered herein shall be completed and open for public use.

F. G. MORITZ
vs.
CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Submitted Dec. 9, 1913. Decided Feb. 9, 1914.

The petitioner alleges that the respondent overcharged it for the transportation of two carloads of sand from Portage to Milwaukee and one carload of sand from Portage to Racine, in that the respondent wrongly classified the sand as moulding sand and applied a rate later made applicable only to moulding sand. It appears that the respondent's tariff at the time the shipments moved provided one rate for all grades of sand but that subsequently a new tariff was put into effect which maintained this rate for moulding sand but fixed lower rates for other sand.

Held: The charges complained of were excessive. The reasonable rate for the transportation of the two cars of sand from Portage to Milwaukee would have been the present distance rate of 2.82 cts. per cwt. for sand other than moulding sand moving a distance of ninety-five miles and the reasonable rate for the transportation of the car of sand from Portage to Racine would have been the present distance tariff rate of 3.2 cts. per cwt. for sand other than moulding sand. Refund is ordered on this basis.

The petitioner is a dealer in building materials and foundry sand, with offices in Milwaukee. The complaint filed by him on November 6, 1913, asks a refund for overcharge on three carloads of sand from Portage, two of which were destined to Milwaukee and one to Racine; claims that the Chicago, Milwaukee & St. Paul Railway Company classified the sand as moulding sand and applied a rate later made applicable only to moulding sand; and that the commodity in question was not a moulding sand.

A hearing was held in the offices of the Commission at Madison on December 9, 1913. *Mr. Moritz* appeared in person and *J. N. Davis* appeared for the respondent carrier.

Mr. Moritz showed that three grades of sand were shipped from Portage: moulding, silica and core sand. Moulding sand is loamy, more plastic and contains more clay than the others; silica sand is a purer sand, containing perhaps 99 per cent silica, and undergoes a process of washing as it is pumped from

the earth; and core sand is a bank sand, and while not so pure as silica sand (it contains perhaps 60 per cent silica) is used for much the same purpose. Moulding sand is sold at 75 cts. a ton, f. o. b. loading point, while silica and core sand bring only 30 or 35 cts. a ton f. o. b. loading point. Any one of the three grades of sand will weigh about the same per car and the costs of the loading are about the same.

It appears that the Chicago, Milwaukee & St. Paul Railway Company published, with the approval of the Commission, a tariff (G. F. D. 6500B) effective June 15, 1913, which first differentiated between moulding and other sands. Prior to that date all sand moved at the same rate of 3.75 cts. per cwt. for distances of ninety-five miles. The new tariff maintained the same rate for moulding sand for that distance, but on other sand made the rate 2.82 cts. per cwt.

Mr. Davis, in behalf of the respondent carrier, stated that the rate applied to the shipments in question was the legal rate in effect at the time they moved, and that, therefore, no refund is due the complainant. The respondent knew no specific reason why it should make the new tariff retroactive by voluntarily consenting to refund to Mr. Moritz an amount equal to the difference between the new and the old rates.

The three cars of sand on which Mr. Moritz asks refunds are as follows:

Date.	Car initial.	Car number.	To	Charges on moulding sand.	Charges on silicia sand.	Refund asked.
4—10—13...	C. B. & Q...	77001	Milwaukee.....	$40 88	$30 84	$10 04
4—16—13...	C. I. L.....	184612	"	40 25	30 26	9 99
5—29—13...	Penn.....	323388	Racine.....	41 18	31 00	10 18
						$30 21

It would appear that the Chicago, Milwaukee & St. Paul Railway Company, by making the distinction in its classification between moulding and other sand, has admitted the unreasonableness of the old rate on other sand. It is necessary that a lower rate apply to other than moulding sand in order that it move at all, as the value is low in proportion to the weight. The fact that the distinction was not made until recently does not make the old rate any more reasonable than it would be if it were

applied since the tariff became effective. Under the circumstances, we find and determine that the rate exacted of petitioner on the three cars of sand in question was excessive, and that a reasonable rate for the services rendered by the respondent for the transportation of the two cars of sand from Portage to Milwaukee would have been the present distance rate of 2.82 cts per cwt. for a distance of ninety-five miles for sand other than moulding sand; and that a reasonable rate for the transportation of the car of sand from Portage to Racine would have been the present distance tariff rate of 3.2 cts. per cwt. for sand other than moulding sand.

IT IS THEREFORE ORDERED, That the Chicago, Milwaukee & St. Paul Railway Company be and hereby is authorized and directed to refund to F. G. Moritz the sum of $30.21.

JAMES F. SULLIVAN

vs.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY.

Submitted Dec. 9, 1913. Decided Feb. 9, 1914.

The petitioner (1) alleges that the rate of 4 cts. per cwt. exacted by the respondent for the transportation of 4 cars of fuel wood from Kennan to Phillips was excessive to the extent that it exceeds a rate of 3 cts. per cwt. and asks for refund and (2) prays that a rate of 3 cts. per cwt. be established for fuel wood moving between Kennan and Phillips. The respondent states that it is preparing a new fuel wood distance tariff providing a rate of 3 cts. for a distance of 30 miles and expresses its willingness to make the refund requested.

Held: The rate complained of is unreasonable. A reasonable rate would not exceed 3 cts. per cwt.

It is therefore ordered: (1) that the respondent put into effect a rate of 3 cts. per cwt. on fuel wood in carloads from Kennan to Phillips; and (2) that the respondent be authorized to refund to the petitioner the excess of the charges paid by him on the shipments in question over the amount found to be reasonable compensation for the services rendered.

This action was brought by James F. Sullivan, a dealer in wood and coal at Phillips, Price county, Wis. In the course of his business Mr. Sullivan has had occasion to ship several carloads of fuel wood from Kennan, Wis., to Phillips, Wis. Kennan is a station on the Wisconsin and Peninsula division of the "Soo" line and Phillips on what is now known as the Chicago division, which was formerly the Wisconsin Central railroad. On November 5, 1913, Mr. Sullivan filed a complaint with this Commission that the rate charged him, namely 4 cts. per cwt., (the class E rate of the Wisconsin distance tariff for a distance of thirty miles) was excessive and prayed that the Commission authorize the respondent to refund him $21.09, this amount being the difference between a rate of 4 cts. and a rate of 3½ cts. on the four cars of fuel wood mentioned in the petition. He also asked that a rate of 3 cts. per cwt. on fuel wood be established between Kennan and Phillips. The respondent, in its answer, denied the unreasonableness of the rate applied.

A hearing in the matter was held in the office of the Commission at Madison on December 9, 1913, the petitioner appearing in his own behalf and *E. G. Clark* appearing for the respondent.

The petitioner testified that when he had first contemplated shipping wood from Kennan to Phillips the agent at Phillips had informed him that the rate was 3 cts. per cwt. Subsequently, when he received his freight bills, he found that he had been charged at the rate of 4 cts. per cwt.

The total haul for the railroad from Kennan to Phillips is twenty-eight miles, and takes, of course, the thirty mile distance tariff rate. From Kennan to Prentice the haul is over the Wisconsin and Peninsula division, and from Prentice to Phillips over the Chicago division. It appears that the distance tariff of the Wisconsin Central Railway Company on fuel wood was 3 cts. per cwt. for a distance of thirty miles and that after the taking over of that road by the respondent company, this same tariff became the "Soo" line tariff. The rate on fuel wood for the distance of thirty miles on the "Soo" line was 4 cts. per cwt.

Mr. Clark, testifying for the respondent, stated that the confusion in the rate applied to Mr. Sullivan's shipments was due to the existence of the two distinct tariffs. The movement of fuel wood from Kennan to Phillips was an unusual one and he did not believe it was for such traffic that the distance tariff had been established, but rather for shipments to central markets. He stated that his company was preparing a new fuel wood distance tariff which would coincide closely with the old Wisconsin Central tariff and which would give Mr. Sullivan or any other "Soo" line shipper a rate of 3 cts. for a distance of thirty miles. No such tariff has as yet been filed with or approved by the Commission. Mr. Clark stated further that his company was willing to refund to Mr. Sullivan the amount of the difference between a rate of 4 cts. and a rate of 3 cts. on the four cars involved in the complaint.

We therefore find and determine that the rate of 4 cts. per cwt. on fuel wood in carloads for a distance of thirty miles is unreasonable; that a reasonable rate would not exceed 3 cts. per cwt., and that Mr. Sullivan is entitled to reparation to the amount of $21.09, the overcharge on the four cars of fuel wood mentioned in the complaint.

IT IS THEREFORE ORDERED, That the Milwaukee, St. Paul & Sault Ste. Marie Railway Company discontinue its present rate of 4 cts. per cwt. on fuel wood in carloads from Kennan to Phillips and substitute in lieu thereof a rate not to exceed 3 cts. per cwt.

IT IS FURTHER ORDERED, That the Milwaukee, St. Paul & Sault Ste. Marie Railway Company be and hereby is authorized to refund to James F. Sullivan the sum of $21.09.

WAUSAU PAPER MILLS COMPANY
vs.
CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Submitted Nov. 11, 1913. Decided Feb. 9, 1914.

The petitioner alleges that the respondent exacted a rate of 3 cts. per cwt. for the transportation of eight cars of ground wood pulp shipped from Rothschild to Brokaw between July 11, 1912, and August 3, 1912, and prays for the refund of the excess of the charges paid above the charges assessable on the basis of the 2 ct. rate prescribed by the Commission for shipments of the kind in question in its order of July 11, 1912 (9 W. R. C. R. 400). The respondent admits the overcharges alleged insofar as the three cars moved after the Commission's order became effective on July 31, 1912, are concerned and has adjusted these overcharges with the petitioner. The respondent contends, however, that the rate of 3 cts. per cwt. was properly assessed on the five shipments which moved prior to July 31, 1912.

Held: The rate of 2 cts. per cwt. fixed in the order of July 11, 1912, to become effective on July 31, 1912, was reasonable as far back as July 11, 1912. Refund is ordered on this basis.

On July 11, 1912, this Commission, by an order issued in *Wausau Paper Mills Co. v. C. M. & St. P. R. Co.* (9 W. R. C. R. 400) established a rate of 2 cts. per cwt. on ground wood pulp from Rothschild to Brokaw, Wis. In a petition dated October 22, 1912, the Wausau Paper Mills Company asks the Commission to authorize and direct the Chicago, Milwaukee & St. Paul Railway Company to refund the sum of $59.58, this amount being the difference between a 3 ct. rate and a 2 ct. rate on eight cars of ground wood pulp shipped from Rothschild to Brokaw between July 11, 1912 (the date of the Commission's order), and August 3, 1912. The Wausau Paper Mills Company further alleges that the respondent failed to put into effect the rate established by the order mentioned above until September 1, 1912.

The Chicago, Milwaukee & St. Paul Railway Company, in its answer, makes the following statement:

"The order of the Commission reducing the rate to 2 cts. per cwt. became operative July 31, 1912, and our tariff was published effective upon the date and not September 1st, as stated

in complainant's petition. The shipments alleged to have moved August 2d and 3d are, therefore, overcharged 1 cent per cwt., and this amount should be refunded without intervention of the Railroad Commission of Wisconsin.

"As to the shipments that moved prior to July 31st, the proper tariff rate was assessed and I see no reason why we should voluntarily assume a position that would cause retroactive application of the tariff."

Further answering, the respondent says that steps were then being taken to immediately pay back the overcharge of 1 ct. per cwt. on the three cars moved in August, 1912.

Hearing upon the case was held in the office of the Commission at Madison, on November 11, 1913. *J. N. Davis* appeared for the respondent, but there was no appearance for the petitioner.

Mr. Davis restated his company's position in the matter to the effect that as to the cars moved in August, 1912, adjustment could be made with the Wausau Paper Mills Company without an order from the Commission. As to the five cars moved between July 11 and 31 of the same year—the latter date being the one upon which the Commission's order fixing the 2 ct. rate became effective—the railway company held that it had no right to assume that the Commission's order would be retroactive.

A letter received by the Commission under date of January 24, 1914, from the petitioner states that the overcharge made by the defendant company upon the cars moved on August 2 and 3, 1912, had been adjusted. As this was a question of overcharge simply the Commission had not intended to issue an order, believing that adjustment would be made, as it has been.

The five cars, then, moved between July 11 and 31, 1912, carrying ground wood pulp from Rothschild to Brokaw at a 3 cts. per cwt. rate are all that remain to be considered for adjustment under the complaint. Following are the details of the shipments, together with the refund asked:

Date.	Initial.	Car No.	Weight.	Charges at 3 cts. per cwt.
7-11-12	L. V.	86340	88,000	$26 40
7-14-12	P. M.	43584	66,000	19 80
7-17-12	Penn.	49026	90,585	27 18
7-20-12	M.	54242	66,000	19 80
7-22-12	P. L.	57681	66,000	19 80
			376,585	$112 98
			At 2 cts. per cwt. would be..	75 32
			Refund asked.....	$37 66

In the decision by the Commission establishing the rate of 2 cts. per cwt. between Rothschild and Brokaw the question of the cost of the service was carefully gone over and comparisons were instituted with prevailing short distance rates on ground wood pulp on the respondent company's lines between other points and on the Chicago & North Western lines. Other factors also were considered in fixing the rate. When the order was issued making the new rate it embodied an authorization for refund to the Wausau Paper Mills Company of the difference between a 4.3 ct. rate and the 3 ct. rate, the latter having been voluntarily established by the respondent company after solicitation on the part of the petitioner. The rate fixed as reasonable at that time was 2 cts. per cwt. between the points named. The fixing of that rate, however, did not imply that it would necessarily have been reasonable at a time prior to the issuing of the order, as the following from the Commission's order at that time (1912, 9 W. R. C. R. 400, 404) suggests:

"With regard to the matter of refund on past shipments, it is to be noted that the petitioner asks only for a refund of the difference between the old 4.3 ct. rate and the present 3 ct. rate on shipments moving between July 10 and October 5, 1911. This being the full measure of the request, the Commission cannot properly go further and grant a refund on the basis of the 2 ct. rate herein found reasonable for the future. As a matter of fact, it is not certain that the petitioner, even if it had prayed for it, would have been entitled to a refund of the entire difference between 4.3 cts. and 2 cts. It does not always follow from the reduction of a rate that a refund may properly be granted, and each case depends largely upon its own peculiar circumstances.

But if the fixing of a rate deemed reasonable at a certain time does not imply that such rate would have been reasonable months

or years prior to that time, because of the possibility that different conditions and circumstances might have existed earlier, neither does it prove that the new rate would not earlier have been reasonable.

In the present case the data and the comparisons upon which the Commission's order of July 11, 1912, was promulgated have been used. From a reconsideration of these it would seem that the 2 ct. rate fixed to become effective on July 31, 1912, was reasonable as far back as the date of the issue of the order on July 11, 1912, but the Commission will not hold that the new rate would have been reasonable farther back than that date.

We therefore find and determine that the petitioner, the Wausau Paper Mills Company, is entitled to a refund of $37.66, the amount of the charge over and above a reasonable charge for moving five cars of ground wood pulp between Rothschild and Brokaw by the Chicago, Milwaukee & St. Paul Railway Company.

IT IS THEREFORE ORDERED, That the Chicago, Milwaukee & St. Paul Railway Company be and the same hereby is authorized and directed to refund to the Wausau Paper Mills Company the sum of $37.66.

CALLAWAY FUEL COMPANY

vs.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY, MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY.

Submitted June 10, 1913. Decided Feb. 9, 1914.

The petitioner complains of the routing given a car of coke transported by the respondents from Racine to North Fond du Lac and asks for refund of the excess of the charge exacted above the charge which the petitioner alleges should have been assessed if the car had been properly routed. The car moved via the C. & N. W. Ry. from Racine to Waukesha and via the M. St. P. & S. S. M. Ry. from Waukesha to North Fond du Lac, and the total charge assessed includes the sum of the local rates plus the switching charge of a connecting line. The petitioner contends that the shipment should have moved via the C. & N. W. Ry. to Fond du Lac and that the reasonable switching charge which should have been made by the M. St. P. & S. S. M. Ry. Co. for delivery at North Fond du Lac should have been absorbed by the C. & N. W. Ry. Co.

Held: Although the shipment in question, in view of a carrier's obligation to choose the route having the less distance when the carrier has the choice of two possible routings, should have moved via Fond du Lac, the charge for transportation by this route would have been identical with the charge actually exacted. The petitioner has therefore suffered no injury and his petition, insofar as it relates to the matter of refund, is dismissed.

No switching rates are now provided by the M. St. P. & S. S. M. Ry. Co. for hauls between Fond du Lac and North Fond du Lac. It appears, however, that the rate of $5 per car, which the railway company once expressed its willingness to put into effect for this service, is a reasonable rate and its adoption is therefore recommended for use in connection with traffic interchanged with the C. & N. W. Ry. at Fond du Lac.

The petitioner in this case is a corporation engaged in the sale of coal and coke with offices in Milwaukee, Wis. It alleges that on September 12, 1912, it shipped a carload of coke from Racine, Wis., via the Chicago & North Western Railway consigned to Paul Wirth at North Fond du Lac, care of "Soo" line. The Chicago & North Western Railway Company moved the car to Waukesha, Wis., making delivery to the Minneapolis, St. Paul & Sault Ste. Marie Railway at that point, which, in turn, transported the car from Waukesha to North Fond du Lac. The railroads in question charged, respectively, the local rate of 60 cts. per ton from Racine to Waukesha and 75 cts. per ton from

Waukesha to North Fond du Lac, which, with the connecting line's switching charge, make a total charge of $43.58. The local rate on coke via the Chicago & North Western Railway from Racine to Fond du Lac is 75 cts. per ton and the same rate applies to North Fond du Lac, as per G. F. D. No. 13125–A, but on account of there being no track connection at that point, delivery could not be made to the Minneapolis, St. Paul & Sault Ste. Marie Railway for switching to consignee who is located on the tracks of that line. Such delivery, the petitioner insists, should have been made to the "Soo" line at Fond du Lac, and a reasonable switching charge exacted therefor in addition to the rate of 75 cts. per net ton from Racine to Fond du Lac. In accordance with established practice, this switching charge would be absorbed by the Chicago & North Western Railway, thereby making the delivery to the consignee upon the through rate of 75 cts. per net ton from Racine to North Fond du Lac. On account of the failure of the Chicago & North Western Railway to effect the delivery to the consignee by means of the routing outlined above, the complainant maintains that it suffered a loss of $18.48, which it requests the Commission to authorize and direct the respondents to refund.

The Chicago & North Western Railway Company, in its answer to the above complaint, states that it has not been able to verify the car movement referred to, but denies that it collected more than the legal tariff rates upon any shipment described in the complaint, or that these charges were unjust or unreasonable.

The Minneapolis, St. Paul & Sault Ste. Marie Railway Company made a separate answer to the complaint declaring, in substance, that its charge of 75 cts. per ton for handling the carload of coke from Waukesha to North Fond du Lac was its regularly published tariff rate between the points named; that it was a just and reasonable charge; that if the total charge was greater by reason of the routing given by the initial carrier, the Minneapolis, St. Paul & Sault Ste. Marie Railway Company was in no way at fault because it did not route the car.

A hearing was held June 10, 1913, in the office of the Railroad Commission at Madison. Appearances were entered on behalf of the petitioner and both of the respondents.

The expense bill filed with the complaint shows that the car moved in the manner alleged in the complaint. At the hearing

it developed that there was a difference of opinion as to the construction to be placed upon the words "care of 'Soo' line" which were the shipping directions given by the petitioner to the Chicago & North Western Railway. The former maintained that under these instructions the initial carrier should have moved the car to Fond du Lac, which is the junction point nearest the destination where there is track connection, thus enabling the "Soo" to deliver the car to the consignee. The Chicago & North Western Railway Company maintained, however, that under these instructions its agent was obliged to route the car via Waukesha, its first junction point with the Minneapolis, St. Paul & Sault Ste. Marie Railway.

In general it is true that routing instructions should be so interpreted that freight charges assessed upon the basis of published rates be as low as possible. In the light of this principle we have tested the case under consideration. As already stated in the complaint, the total charges for the movement of the shipment via Waukesha aggregate $43.58. If the shipment had moved via Fond du Lac, the total charges would also have been $43.58, which would be the sum of two local rates, first of the Chicago & North Western Railway's commodity rate, Racine to Fond du Lac, of 75 cts. per ton and second of the Minneapolis, St. Paul & Sault Ste. Marie Railway's class D rate, Fond du Lac to North Fond du Lac, of 3 cts. per 100 lb. In either case, there is a charge of $2 for a switch movement at Racine by a connecting line. From the point of view, therefore, of any possible difference in charges as a consequence of having chosen one of two alternative routings, it is apparent that no real injury was inflicted upon the petitioner. Upon the abstract question of what the proper routing should have been in view of the instructions given, we hold that the shipment should properly have moved via Fond du Lac. Quite aside from any practical effect upon the shipper's charges, if of two possible routings one has the advantage of less distance, no specific instructions on the part of the shipper intervening, that is the routing to be given.

Under the circumstances of this case, where the reasonableness of the rates charged is not questioned but only the reasonableness of the practice resulting in the application of these rates is contested, and where upon investigation it appears that no real injury was done which, under a different practice, might have been avoided, we must conclude that the petitioner in this case is not entitled to a reparation order.

It is to be regretted that the petitioner in this case did not inform himself what the charges would be before making the shipment. The petitioner's contention that the carrier's agent at Racine should have informed him what the charges would be does not, in our opinion, constitute a valid objection. We have repeatedly held that even where a shipment is made upon the quotation of a rate by a carrier's agent, which rate afterwards proves to be inapplicable, the shipper is nevertheless liable to pay the legal and published charges.

It is suggested by the petitioner that a switching rate should have been charged at Fond du Lac for the haul by the Minneapolis, St. Paul & Sault Ste. Marie Railway from Fond du Lac to North Fond du Lac, which would have been absorbed by the Chicago & North Western, thus making the rate to the petitioner 75 cts. per ton. We have examined the tariffs on file but have found no switching tariff effective between Fond du Lac and North Fond du Lac. The only rate that could be applied, therefore, is the class D general distance tariff rate of 3 cts. per 100 lb.

It was pointed out by the petitioner at the hearing that if a satisfactory rate were provided, the petitioner could sell considerable quantities of coke to a dealer at North Fond du Lac. While the Chicago & North Western Railway Company provides team track facilities at North Fond du Lac, it seems that the dealer to whom the coke would be consigned is located on the tracks of the "Soo" line and wants his cars delivered via that line. From the testimony it appears further that the Minneapolis, St. Paul & Sault Ste. Marie Railway Company at one time expressed its willingness to put in a switching rate of $5 per car from Fond du Lac to North Fond du Lac if it was found to be necessary. This rate appears to the Commission to be reasonable and its adoption will therefore be recommended.

NOW, THEREFORE, IT IS ORDERED, That the petition, insofar as it relates to the matter of refund, be and the same is hereby dismissed.

It is recommended that the Minneapolis, St. Paul & Sault Ste. Marie Railway Company establish a switching rate of $5 per car for the movement of cars between Fond du Lac and North Fond du Lac, the same to be used in connection with traffic interchanged with the Chicago & North Western Railway at Fond du Lac.

WAUSAU BOX AND LUMBER COMPANY
vs.
CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted Oct. 14, 1913. Decided Feb. 9, 1914.

The petitioner alleges that the respondent has exacted for the transportation of wooden boxes, in carloads, from Wausau to New London rates and charges which are unjust and unreasonable when compared with rates exacted for the transportation of the same commodity between similar points in Wisconsin and asks for refund on certain shipments. The charges complained of were based on the published tariff of the respondent but the rates on lumber and the box rates depending on the lumber rates have been voluntarily reduced by the respondent since the shipments moved.

Held: The charges complained of were excessive and unreasonable. Refund is ordered on the basis of the rates now in effect.

The petitioner owns and operates a lumber and milling plant at Wausau, Wis., and is engaged in the general business of manufacturing and selling lumber, box shooks, nailed-up boxes and other forest products. It alleges that the respondent has exacted for the transportation of wooden boxes, in carloads, from Wausau to New London, rates and charges that are unjust and unreasonable as compared with rates exacted for the transportation of the same commodity between similar points in Wisconsin, and asks for refund of $52.56 on twenty-seven shipments of boxes which moved prior to March 29, 1913, and $9.68 on three shipments which moved after March 29, 1913, or such other sum as the Commission may find the petitioner entitled to receive as refund.

The respondent, in its answer to the petition, denies the above allegations and prays that the petition be dismissed.

A hearing was held on October 14, 1913, at which the petitioner was represented by *A. E. Solie* and the respondent by *C. A. Vilas* and *H. C. Cheney.*

Additional matter introduced at the hearing consisted, in part, of a supplementary exhibit by the petitioner alleged to be based on rates put in effect by the respondent on July 12, 1913,

and attempting to show that the petitioner was entitled to a reparation of $69.32 on twenty-seven shipments moving prior to March 29, 1913, and to a reparation of $13.82 on three shipments moving subsequent to March 29, 1913, in place of the sums mentioned in the complaint. The sums claimed by the petitioner in the complaint were alleged to be based on a lumber rate of 6.8 cts. from Wausau to New London, which is the rate asked for in the matter of *Wausau Advancement Assn. v. C. & N. W. R. Co.* now pending before the Commission, while the larger sums claimed by the petitioner in the supplementary exhibit presented at the hearing are based on a lumber rate of 6.5 cts. from Wausau to New London, which is a rate established by the respondent carrier on July 12, 1913.

Schedules of rates in effect over the respondent's lines for the period during which the shipments mentioned in the complaint moved will be considered in the opinion in the pending case of *Wausau Advancement Assn. v. C. & N. W. R. Co.*

The question of the reasonableness of the present rate of 6.5 cts. on lumber is not contested in the petition and will therefore not be considered.

Reparation in the amount of $75.07 on twenty-seven shipments moving prior to March 29, 1913, is asked, based on the difference between the box rate of 12.5 cts. then in effect (being the lumber rate of 7.5 cts. plus 5 cts. additional for boxes) and the box rate of 11.5 cts. (being the lumber rate of 6.5 cts. now in effect plus an additional charge of 5 cts. in effect for boxes prior to March 29, 1913). Reparation in the amount of $13.82 on three shipments moving after March 29, 1913, is asked, based on the difference between the box rate of 11.25 cts. then in effect (being 150 per cent of the lumber rate of 7.5 cts. in effect from May 15, 1911, to March 29, 1913) and the box rate of 9.75 cts. (being 150 per cent of the lumber rate of 6.5 cts. now in effect). Prior to March 29, 1913, the rate on wooden boxes was 5 cts. higher than the lumber rate. Effective March 29, 1913, the rate on wooden boxes was 150 per cent of the lumber rate but not to exceed 5 cts. above the lumber rate. The reasonableness of the arbitraries above the lumber rate is not questioned in the petition.

Examination of the freight bills filed with the petition in the case of the *Wausau Advancement Assn. vs. Chicago & North Western Ry. Co.* before mentioned and made part of the com-

plaint in the instant case, shows that the published rate was charged for each shipment. These bills show that the shipper was the Wausau Box and Lumber Company and the consignee the National Condensed Milk Company. The Wausau Box and Lumber Company paid the freight charges to the carrier or showed receipt from the National Condensed Milk Company for refund of such portion of the freight charges as was paid by the consignee on these shipments.

The Chicago, Milwaukee & St. Paul Railway Company and the Green Bay & Western Railroad Company have maintained a joint rate of 6.5 cts. on lumber from Wausau to New London for some time past. This joint rate was voluntarily established by these two carriers. The joint haul is for a total distance of about 99 miles and involves transfer en route. The single line haul by the Chicago & North Western Railway Company is for a distance of about 70 miles and involves no interchange en route. A comparison of costs for the three roads mentioned shows that the 6.5 cts. rate is reasonable and that it gives the carrier a fair return over the two routes. The fact that the Chicago, Milwaukee & St. Paul Railway Company and the Green Bay & Western Railroad Company established this rate of their own accord and the further fact that the Chicago & North Western Railway Company after complaint had been filed established the rate voluntarily on July 12, 1913, further point to the reasonableness of the rate.

It appears, therefore, that the petitioner, the Wausau Box and Lumber Company, has been charged excessive and unreasonable rates on the thirty shipments of nailed-up wooden boxes from Wausau to New London listed in the complaint, to the extent that the lumber rate exceeds 6.5 cts. between these points. An error which appears to have been made in the compilation of the supplementary exhibit has been corrected in the following statement. The amount of the refund to which the petitioner is entitled is $75.07 on twenty-seven shipments moving prior to March 29, 1913, and $13.82 on three shipments moving after March 29, 1913.

OVERCHARGE ON THE FOLLOWING SHIPMENTS OF NAILED-UP WOODEN BOXES, SHIPPED FROM WAUSAU, WIS., TO NEW LONDON, WIS.:

Date shipped 1912.	Road.	Car No.	Weight. lb.	Rate.	Charges.
3-22	C.& N. W.	12015	28,500	12.5 cts.	$35 63
11-2	K. C. S.	20131	30,300	"	37 88
10-26	C.& N. W.	115412	22,500	"	28 13
9-23	C.& N. W.	115640	25,600	"	32 00
6-10	G.T.P.	309205	21,500	"	26 88
6-5	S.P.	84790	20,400	"	25 50
5-13	N.Y.C.	95875	23,400	"	29 25
5-1	N.P.	24963	21,100	"	26 38
4-22	N.P.	37137	21,200	"	26 50
3-4	C.& N. W.	116854	51,500	"	64 38
	C. P.	32984			
6-17	Omaha	19692	27,000	"	33 75
	Omaha	117118			
6-20	N.P.	27672	23,300	"	29 13
6-28	C.& N. W.	17923	27,000	"	33 75
8-3	C.S.M.O.P.	122128	22,100	"	27 63
8-20	Omaha	122273	22,500	"	28 13
9-1	C.B.& Q.	112706	23,900	"	29 88
7-15	C.& N. W.	125668	34,300	"	42 86
11-18	C.& N. W.	12393	36,500	"	45 63
8-20	Omaha	122273	22,500	"	28 13
3-26	C.M.& P.S.	20654	37,700	"	47 13
2-15	C.& N. W.	28249	23,400	"	29 25
3-5	C.& N. W.	118948	24,200	"	30 25
3-8	G.N.	103346	29,700	"	37 13
2-21	C.& N. W.	112648	18,200	"	22 75
2-4	C.& N. W.	116352	41,300	"	51 63
1-17	C.& N. W.	84498	45,700	"	57 13
	F.N.D.	4114			
1-18	O.R.N.	12058	24,700	"	30 88
	As collected		750,000		$937 57
	Should be		750,000	11.5 cts.	862 50
	Overcharge				$75 07
1913					
5-1	C.C.C.& St. L.	3496	32,600	11.25 cts.	36 68
4-16	C.& N. W.	116818	27,100	"	30 49
4-12	C.& N. W.	7696	32,400	"	36 45
	As collected		92,100		$103 62
	Should be		92,100	9.75 cts.	89 80
	Overcharge				$13 82
	Total overcharge				$88 89

NOW, THEREFORE, IT IS ORDERED, That the respondent Chicago & North Western Railway Company be and hereby is authorized to refund to the Wausau Box and Lumber Company the sum of $88.89.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF A PROPOSED EXTENSION OF WATER MAINS BY THE VIOLA MUNICIPAL WATER PLANT.

Submitted Oct. 21, 1913. Decided Feb. 9, 1914.

The Commission, on its own motion, investigated the failure of the village council of Viola to take action on a petition of 25 residents of the village asking for an extension of a water main along a route specified in the petition. Since the hearing, 15 of the 25 petitioners have joined in a petition to the Commission, stating that they realize that, in view of the financial condition of the village, the making of the extension asked for is not warranted at the present time and praying the Commission not to order the extension to be made.

Held: Under the circumstances an order requiring the laying of the water main extension in question is unwarranted. The matter is therefore dismissed.

The Commission, on its own motion, investigated the failure of the village council of Viola to take action on a petition signed by twenty-five residents of the village and presented to the council asking for the extension of a water main along a route specified in the petition.

A hearing was held in the office of the Commission at Madison on October 21, 1913. *J. M. Cushman,* one of the signers of the petition presented to the village council, appeared in support of the plan to extend the water main as outlined in the petition. *Charles H. Nye,* village clerk, appeared on behalf of the council and in opposition to the project.

Subsequent to the hearing, the village clerk in a letter dated November 1, 1913, submitted a petition addressed to the Commission and bearing the signatures of fifteen of the signers of the original petition to the village council, stating that they had not authorized nor asked that the matter be brought to the attention of the Commission but that they had relied upon the judgment of the village board and that upon learning, subsequent to the filing of the original petition, of the financial condition of the village, they realized that the public improvements asked for were unwarranted at the present time. The

petitioners therefore prayed the Commission not to order the water pipe extension described in the original petition to the village council.

Some of the evidence presented and statements made in support of the laying of the extension in question were intended to show that the village records accounted for the expenditure of but a small part of the sum of $9,000 borrowed by the village for the construction of a water works plant and system. Without at this time attempting to determine just what investment is represented by the Viola water works, we do not hesitate to say that it seems quite improbable that the works as described could have been built for the expenditures found by Mr. Cushman to have been accounted for.

Further discussion of the circumstances of the case at this time is deemed unnecessary. In view of the evidence presented and facts obtained, it is apparent that an order requiring the laying of the water main extension in question is unwarranted.

IT IS THEREFORE ORDERED, That the matter be and the same is hereby dismissed.

IN RE APPLICATION OF THE VILLAGE OF WITHEE FOR AUTHORITY TO INCREASE ELECTRIC RATES.

Decided Feb. 9, 1914.

The village of Withee, which is operating an electric plant under a six months' lease from the owner, applies for authority to increase its rates for electric current. No satisfactory record information is available as to the value of the plant, its revenues, its expenses or its consumer statistics. It has therefore been necessary to estimate probable revenues and expenses upon the basis of such specific and comparative data as could be secured and the results, consequently, can only be tentative.

The fact that the rates applied for have been in use for some time, as the result of a misunderstanding of the Public Utilities Law, is no indication that they should remain undisturbed. Such rates are illegal until sanctioned by the Commission.

The Commission cannot withhold action upon the instant petition merely because it is the intention of the owner of the plant to present another schedule of rates at some future date when he reassumes control of the property.

Flat rates fixed at a certain rate per lamp usually result in unequal treatment of consumers and in the wasteful use of current. and, usually because of the high figure at which they must be placed, discourage the development of business. In the instant case it is not deemed advisable, however, to require the utility to furnish or install meters at its own expense for consumers using less than four 50-watt units or their equivalent in any one building. The order, therefore, provides flat rates for residence and commercial consumers falling within this class, though it authorizes the utility, if it so desires, to install a meter for any commercial consumer.

Held: (1) The applicant's rates should be revised. (2) A station watt-hour meter should be installed for the purpose of aiding in providing records upon which it will be possible to accurately determine the cost of supplying service.

The applicant is ordered (1) to put into effect a schedule of rates fixed by the Commission; and (2) to install within thirty days a station watt-hour meter to measure the output of the plant.

The applicant in this matter, the village of Withee, is operating an electric plant owned by Paul A. Paulsen. The applicant rented said plant for the six months period from September 1, 1913, to March 1, 1914, for the purpose, it is stated, of determining the cost of operating the plant,

The petition states that the applicant has in effect the following rates:

Residences:

1 light	$0.50 per month
2 lights	.90 per month
4 lights	1.60 per month
Over 4 lights	.35 per light per month.

Hotels, Saloons and Stores:
50 cts. per light.

Blacksmith shops and moving picture shows:
Special prices.

Meter rent—25 cts. per month.
Current—12 cts. per kw-hr.
Discount if paid before the 10th—10 per cent.
Minimum bill—$1.00.

Street Lighting:
12 250-watt tungsten lamps.
6 100-watt tungsten lamps.
Rate: $50 per month.

For the foregoing the utility wishes to substitute the following rates:

Residences:

1 light	$0.50 per month.
2 lights	.90 per month.
4 lights	1.60 per month.
All over 4 lights	.35 per light per month.

Hotels, Saloons and Stores:
50 cts per light.

Blacksmith shops and moving picture shows:
Special rates.

Meter rent—25 cts. per month.
Current—14 cts. per kw-hr.
Discount 10 per cent if paid before the 10th.
Minimum bill—$1.00.

Street Lighting:
15 250-watt tungsten lamps.
6 100-watt tungsten lamps.
Rate: $70.00 per month.

Hearing was held on January 20, 1914. There were no appearances.

It appears that the increased rates applied for have been in effect since August 1, 1913, through a misunderstanding and misinterpretation of the Public Utilities Law. The fact that

these increased rates have now been in use for a considerable period of time is, however, no indication that they should remain undisturbed. In cases such as this, where a utility has been operating contrary to law under the schedule of rates which it asks the Commission to approve, the rates are illegal and as such have no standing until sanctioned by the Commission. In the instant case both the old rates and the proposed schedule of rates have certain features which it seems well to modify to some extent.

The owner of the plant, Mr. Paul A. Paulsen, states in a communication to the Commission in connection with the application of the village for increase in rates, that "after the first day of March, 1914, a new contract will be entered into between the said village and myself and at that time a new rate schedule will be presented to the Railroad Commission". The Commission cannot, however, withhold action upon the present petition merely because it is the intention of the owner of the plant to present another schedule of rates at some future date when he reassumes control of the property. Any questions which may arise at that time will be disposed of on their merits when they are brought before the Commission.

The actual value of the electric plant is unknown but it is estimated not to exceed $5,000. The plant is operated in connection with a sawmill and this value includes only the electrical equipment, the distribution system and such a part of the cost of the boiler, the engine and the buildings as it appears equitable to charge to the electric department.

Only one man is regularly employed, it appears, in the operation of the plant, and he is paid $600 a year. Slabwood, a by-product of the saw mill, is employed throughout the larger part of the year as fuel. It would seem that on this basis the total operating expenses, excluding taxes, depreciation and interest, should be low.

No satisfactory financial and statistical report has ever been made for this utility and its records have been so poorly kept that it is difficult to secure any information from them. Definite data on which to base a judgment as to the reasonableness of the proposed rates are therefore lacking.

For the reasons noted the annual report of the electric plant for the year ended June 30, 1913, is incomplete. The income

account, after adjustment by the Commission, is approximately as shown below:

INCOME ACCOUNT STATEMENT.

Year Ended June 30, 1913.

Earnings:		
Commercial	$840.00	
Municipal street lighting	600.00	
Total revenues		$1,440.00
Expenses:		
Labor	$600.00	
Fuel and other expenses	1,160.00	
Total operating expenses		1,760.00
Deficit		*$320.00*

The utility submitted a statement of the receipts and disbursements for the period January 1, 1913, to August 1, 1913, which is summarized below:

RECEIPTS AND DISBURSEMENTS STATEMENT.

Jan. 1, 1913, to Aug. 1, 1913.

Receipts		
Commercial	$660.98	
Street lighting	245.00	
Total		$905.98
Disbursements		
Labor	$360.00	
Wood and coal	695.00	
Total		1,055.00
Deficit for period		*$149.02*

There appear to be a number of errors in the above statements. The street lighting receipts are listed at $35 per month, whereas the rate schedule calls for a charge of $50 for this period. If the full amount had been collected this item would have been $350 and the total would have been increased to $1,010.98.

We are advised that the wood used for firing the boiler was mostly slab and other waste wood. The average cost for wood per month, however, for the four months of this period in which no coal was used, amounts to $88.75. During the three months in which wood and coal were both used the average cost per month is given as $113.33. An average expense of $88.75 per

month for wood would indicate that on the basis of $3 a cord, a fair price for such wood as is used, about 29½ cords would be used. This is probably equivalent to about 13½ tons of coal. If coal costs $4.50 delivered at the plant the cost per month for the use of coal alone would be close to $60.75. A saving of about $28 a month would thus be effected by the use of coal instead of wood.

It appears to us, after taking into consideration the size of the village, the number of consumers and other facts, that a total fuel expense of between $700 and $900 is all that is required to generate sufficient current (about 13,000 kw-hr.) to supply all needs in Withee.

Because of the fact that no adequate books or records are kept, no satisfactory apportionment of expenses can be made between electric generation and mill operation. This would indicate a probability at least that the reported operating expenses include items charged to electric generation which should have been charged to general mill operation. For this reason the determination of unit costs in the absence of necessary data is extremely difficult and the necessity of making the assumptions required introduces considerable chance of error.

No report is made by the plant as to the consumption of the various classes of consumers or the output of the station by months. Neither is there any record showing connected loads by classes of consumers or by individual consumers.

From an examination of the consumer statistics of a number of other small towns it is believed that the total commercial consumption will not exceed 7,000 kw-hr. The street lights, assuming that they burn 1,220 hours on a moonlight, dusk to midnight schedule, will consume approximately 5,000 kw-hr. Taking into consideration the character of the service, a low line loss etc., it is believed that our estimate of about 13,000 kw-hr. generated may be safely used.

It appears that the total operating expenses, including interest, depreciation and taxes, would amount to about $2,120. The total revenue from all sources for a year under the proposed rates (estimated on data obtained from the annual report and the receipts and disbursements statement) will be about $2,040. This leaves a deficit of some $80.

Attempts to apportion total operating expenses between the classes of service and between capacity and output, in the ab-

sence of record information, can only result in approximations. As before stated, the chance of errors occurring in making so many assumptions is considerable, hence the results can only be tentative.

From an examination of the data relative to street lighting at Withee, it appears that the proposed rate for this class of service is not far from the actual cost of such service.

As regards the proposed flat rates for commercial lighting, attention should be called to the discriminatory features of such rates. Under a system of flat rates there is a considerable tendency for consumers to extend their installations or to increase the sizes of their lighting units without the knowledge of the company and the consumer who uses his lights but a short time each day is thereby required to pay as much as the consumer who uses them many hours per day. Inequalities of this kind are bound to arise when flat rates per lamp are fixed without regard to the time the lamps are used. Such rates, moreover, usually result in waste, for they give no incentive towards saving, since the price is the same whether the lamp is used two or five hours daily.

Flat rates are not only unscientific and unequal, but they tend to prevent the growth of business along those lines where development is most natural for the reason that the rates must usually be placed at a relatively high figure.

This class of rates is most frequently met with in small plants, because of the comparatively large expense which the general installation of meters would mean for such plants. However, the cost of the various sizes of meters which would be required to meter the present flat rate consumers in Withee would not, it is believed, be excessive. The installation of a station watt-hour meter is strongly recommended.

In view of these and other facts, it appears that a more equitable adjustment of the rate schedule may be made if all service is metered and a record kept of the kilowatt-hours generated, etc.

The following extract from a former decision of the Commission is in point:

"The fact that sufficiently complete information for a careful revision of the respondent's rate schedule is not available, has already been alluded to. Under somewhat similar conditions, when the application has been made for an increase of rates, the Commission has dismissed the case, holding it to be the duty

of the utility to maintain such records of its operation as may be necessary for a proper analysis of its business." *City of Rhinelander v. Rhinelander Ltg. Co.* 1912, 9 W. R. C. R. 406, 433.

In the instant case it has been found advisable, in order to permit nothing to stand in the way of those adjustments which it is believed are necessary, to allow certain modifications of the proposed rates to go into effect. At the same time, however, it is the opinion of the Commission that steps should be taken to install a station meter and otherwise improve conditions of operation at the plant. It is only by means of immediate, reliable, adequate and permanent records that equitable rates based upon the costs of supplying the service can be satisfactorily determined. The information derived from the records is an incentive to secure more efficient operation by checking and eliminating wastes.

It is believed that it will be no hardship for the utility to install a station watt-hour meter to measure the output of the plant. The service department of the Commission stands ready at all times to give such assistance to utilities in improving operating conditions as is desired, and there can be no excuse for laxity in this matter.

IT IS THEREFORE ORDERED, That the petitioner in this case, the village of Withee, discontinue its present schedule of rates for electric service and place in effect as a substitute therefor the following rate schedule deemed just and reasonable, as provided under ch. 499, sec. 1797*m*–46, laws of 1907:

COMMERCIAL LIGHTING.

Meter Rates.

Service charge: 25 cts. per meter per month.

Output charge: 14 cts. gross, 13 cts. net per kw-hr.

Discount to apply if bill is paid before the 15th of month following month for which bill is rendered.

Flat Rates.

The utility shall not be required, at its own expense, to furnish or install meters for any consumer using less than four 50-watt units, or the equivalent thereof, in any one building, and the utility is authorized to charge residence consumers using

two or more such units a flat rate of 50 cts. per month per unit for the first two units or equivalent. For each 50-watt unit or equivalent in addition to the first two the charge shall be 35 cts. per month per unit or equivalent.

For commercial consumers using two or more 50-watt units or equivalent the charge shall be 75 cts. per month per unit for the first two units or equivalent, and 50 cts. per month per unit for each additional 50-watt unit or equivalent; or the utility may, at its own option, install a meter for any such consumer, in which event the rate shall be as specified above.

Penalty.

10 per cent shall be added to all flat rate bills if not paid before the 15th of month following month for which bill is rendered.

Minimum Rate.

The utility is authorized in every case when a meter is installed to make a minimum charge of $1.00 per month, and to flat rate customers a minimum charge of $1.00 per month in residences and $1.50 per month in places of business.

STREET LIGHTING.

100-watt lamps, per year, $20.00 per lamp.

250-watt lamps, per year, $48.00 per lamp.

IT IS FURTHER ORDERED, That a station watt-hour meter be installed to measure the output of the plant. Thirty days is considered a sufficient time in which to comply with this portion of the order.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF THE RATES, RULES AND REGULATIONS OF THE MOSINEE ELECTRIC LIGHT AND POWER COMPANY.

Submitted Dec. 16, 1913. Decided Feb. 9, 1914.

The Commission, having received complaints that the rates of the Mosinee Lt. & P. Co. are unreasonable and excessive, investigated the matter on its own motion. A valuation was made, the revenues and expenses were analyzed and the expenses were apportioned among commercial lighting, commercial power, and street lighting. The utility began operation in October, 1911, and so far has paid no taxes and made no provision for depreciation. Expenses for these purposes will have to be met in the future, however, and they are therefore considered in determining the reasonableness of rates for the services of the utility. The utility now has in effect for commercial lighting a schedule of rates which takes into account only the amount of electric energy used by a consumer without regard to his installation.

The amount of energy used is only one element in the expense of supplying electric current which must be considered in fixing rates. The size of the consumer's installation must also be considered or unjust discrimination between consumers will result.

It is the duty of every public service company to extend its service to reach as many consumers as possible. Some of these consumers may not be as profitable as others, yet so long as they are not a burden and do not actually hinder the proper development of the utility, they should be offered a rate that will enable them to enjoy the convenience of electricity in their homes. Each case, however, must be decided on its own merits. In the instant case it seems advisable to authorize a minimum bill of 50 cts. per month. This amount may not be sufficient to fully cover every consumer's proportionate share of the total expenses of the utility but it should be sufficient to cover the additional expense incurred in giving him service and to leave some excess to reduce costs to other consumers.

Held: The utility's present schedule of rates requires revision. The utility is therefore ordered to put into effect a schedule of rates fixed by the Commission.

This investigation is the result of complaints received by this Commission that the rates of the Mosinee Light and Power Company are unreasonable and excessive. A hearing was held on December 16, 1913, at the office of the Commission in Madison. The following appearances were entered: *Harris B. Hanowitz,* member of the village board of Mosinee, on his own behalf and

on behalf of others similarly situated, and *W. A. Von Berg* and *A. Paronto,* secretary and treasurer, respectively, of the Mosinee Electric Light and Power Company.

The company began selling electricity about October 15, 1911. Current is purchased from the Wausau Sulphate Fibre Company which owns and operates a hydro-electric plant at Mosinee. The utility owns only the distribution system, its switchboard being located in the station of the Sulphate company. The following rate schedule is in force at the present time:

Commercial Lighting:
Minimum monthly bill 75 cts.
First 10 kw-hr. per month 12 cts. per kw-hr.
All over 10 kw hr. per month 10 cts. per kw-hr.
No free lamp renewals.

Commercial Power:
Minimum monthly bill $1.00 for the first h. p. and 50 cts. for each additional h. p. up to 10 h. p. Energy charge 10 cts. per kw-hr.

Special Power Rate:
One consumer to whom a ¼ mile independent line was built has a 15 h. p. motor for which he pays a minimum monthly bill of $15.00. Energy is charged at 5 cts. per kw-hr.

Street Lighting:
34 100 c. p. tungsten lamps at $20 each per year.

A valuation of the physical property of the company was made as of date June 30, 1913, a summary of which follows:

TABLE I.

	Cost new	Present value
Land	.....	.....
Transmission and distribution	$5,065	$4,654
Buildings and miscellaneous structures	.....	.....
Plant equipment	1,109	1,032
General equipment	.....	.....
Total	$6,174	$5,686
Add 12% (see note below)	741	682
Total	$6,915	$6,368
Materials and supplies	280	280
Total	$7,195	$6,648

NOTE:—Addition of 12 per cent to cover engineering, superintendence, interest during construction, contingencies, etc.

The next table shows the balance sheet as it appears in the corrected annual report of this company for the year ending June 30, 1913:

TABLE II.

Assets		*Liabilities*	
Property and plant....	$7,165.78	Capital stock	$6,000.00
Cash	259.36	Notes and bills payable	400.00
Accounts receivable ...	591.22	Accounts payable	152.26
Materials and supplies	154.13	Surplus	1,625.05
Open accounts	6.82		
Total assets	$8,177.31	Total liabilities ..	$8,177.31

The original cost of this property, as will be noted from the above balance sheet, was $7,165.78, which compares favorably with the Commission's valuation in which the cost of reproduction new, excluding materials and supplies, is shown to be $6,915. In order to determine the present investment of the company it is necessary to estimate the amount the property has depreciated through use, and to note the effect that the establishment of a depreciation reserve of an equal amount will have on the balance sheet. Assuming that this property will depreciate about 6 per cent a year on a straight line basis, a depreciation reserve of $645 should be set up for the year and a half that the company had been operating at the close of the last fiscal year. In order to do this, the surplus will have to be decreased by that amount, leaving it $980.05. It seems unnecessary to further explain that the assets offsetting the depreciation reserve represent that part of the plant which is worn out, that sometime in the future they will be needed to replace such worn out parts and that, consequently, if these assets are paid out as dividends, it will be necessary to obtain funds from some other source to make replacements when they become necessary. In the instant case current assets exceed current liabilities by $459.27, an amount which is $185.73 less than the depreciation reserve of $645.00 that should have been set up. In other words, $185.75 of the assets that offset the depreciation reserve are in the property and plant account. If we then deduct $185.75 from this account we get $6,980.05 as the actual investment on June 30, 1913, which equals the sum of the capital stock ($6,000) and the surplus (980.05).

The Commission's valuation shows that the cost of reproduc-

ing this property new is $6,915 and that its present value is $6,368. If we assume that the excess of $459.27 of current assets over current liabilities had been placed in a depreciation fund, it would be proper to add the amount in this fund to the present value shown in the Commission's valuation. When this is done we get $6,827 as the present investment. We note that in the Commission's valuation materials and supplies are listed at $280, which is $126 more than is shown in this account in the balance sheet. If this $126 is added to the $6,827 obtained above, we get $6,953 as the present investment. Taking all the facts into consideration, it seems that about $7,000 represents a fair value of the property of this company for rate-making purposes. Consequently this figure has been used in our computations.

The next table shows the income accounts for the two years ending June 30, 1912, and June 30, 1913. The company began selling current in October 1911, consequently the first year covers only about eight months.

TABLE III.

	Year ending June 30, 1912.	Year ending June 30, 1913.
Operating Revenues:		
Commercial lighting	$687 57	$1,966 75
Commercial power	7 10	203 25
Municipal street lighting	425 00	656 66
Total revenues	$1,119 67	$2,826 66
Operating Expenses:		
Current purchased	$396 84	$952 08
Distribution	53 23	20 80
Consumption	.....	35 17
Commercial	60 50	94 14
General	192 59	181 20
Undistributed	19 05	7 60
Total operating expenses	$722 01	$1,290 99
Net operating revenue	$397 66	$1,535 67
Non-operating revenue	151 48	[1]*143 43*
Gross income	$549 14	$1,392 24
Deductions from gross income:		
Interest on floating debt	.....	16 33
Net income	$549 14	$1,375 91
Disposition of net income:		
Dividends	.....	300 00
Surplus for the year	$549 14	$1,075 91
Surplus at beginning of year	.....	549 14
Surplus at close of year	$549 14	$1,625 05

[1] Credit.

At the hearing the company contended that the operating expenses as set forth in the above income account are abnormally low, because of the newness of the enterprise. The company claimed that it already has had to increase its general expenses $180 a year, most of which goes to the expense of keeping the company's records. During the last fiscal year $94.14 was spent for direct operating labor, a man being engaged by the hour to do whatever work was necessary. The company claims that this work has become so heavy since the close of the last fiscal year that it will be cheaper to hire a man by the month. It seems that a certain man in Mosinee can be engaged for $20 a month to take care of this work along with his other business. This increase in the general expenses and in operating labor would amount to about $325 a year and would make the yearly labor bill, including officers' salaries, $660, which does not appear unreasonable.

Some of the present customers were taking current only a part of the last fiscal year, and four of the street lamps burned only a part of the same period. It is therefore necessary, in determining normal operating expenses, to increase the amount that will be paid for current proportionately to the increase in consumption, which, it is estimated, will be about 1,316 kw-hr., including distribution losses. The increase in expense, then, will be about $39.48.

It will be noted that nothing has been included in the above income accounts for taxes and depreciation. For some reason or other it appears that the company has not paid any taxes so far. It is not likely that this situation will continue; consequently, in determining the normal expenses we have assumed that taxes will amount to about one per cent on the fair value. In determining the amount that should be set aside for depreciation, a computation was made which showed that this property has an average life of 12.64 years and that $334 placed each year in a fund bearing 4 per cent interest will be sufficient to replace the depreciable property when it is worn out. As this is a new property located in a small village, and as the earnings appear to warrant it, interest and necessary profits, which are usually included in the term "reasonable return", have been placed at 8 per cent on the fair value as found above.

The next table shows the expenses, as adjusted above, divided between the different classes of consumers:

TABLE IV.

	Total.	Commercial lighting.	Commercial power.	Street lighting.
Operating expenses	$1,656 47	$1,138 84	$118 14	$399 49
Interest, depreciation and taxes	964 00	735 36	80 75	147 89
Total	$2,620 47	$1,874 20	$198 89	$547 38

It will be noted that the percentage relation between the operating expenses and fixed charges in commercial lighting and commercial power differs considerably from that existing in street lighting. The reason for this is that relatively less of the investment is used by street lighting than by either of the other two classes, as no meters or service wire are needed in the former. Another reason for this difference is that in street lighting depreciation of the lamps is included in the operating expenses, as maintenance and not in the fixed charges.

The above table shows that $547.38 is the cost of supplying street lighting in Mosinee. There are thirty-four lamps, which means a cost of $16.10 per lamp and suggests a rate of $16.00 per lamp per year.

The rate for commercial lighting in force at the present time is what is known as an increment schedule. The exact rate is 12 cts. per kw-hr. for the first 10 kw-hr. consumed during the month and 10 cts. per kw-hr. for all over 10 kw-hr. consumed during the month. This rate does not take into consideration any factor other than the quantity of current consumed. In the electric business, however, the use of energy is only one element of expense and a consumer who used very little current might cause a relatively large amount of expense. In order to illustrate this point let us consider a case in which there are two consumers, A and B. A has an installation of 10 kilowatts which he uses one hour a day. B has an installation of 1 kilowatt which he used ten hours a day. Both then would consume 10 kw-hr. of current each day and, under an increment schedule such as exists at Mosinee, both would pay the same total amount. The important difference between the two is that in the ordinary plant A requires almost ten times as much investment as B, which means ten times the interest, depreciation and taxes that B occasions, yet A is not compelled to pay a higher monthly

bill than B. In fact, A is treated as a preferred customer and actually would pay less per kw-hr. than B would, because, unless B was a very exceptional customer, he would not use his installation ten hours a day. This condition is due to the fact that the product of an electric utility is a service and as such must be used in connection with the plant, for it cannot be stored as can the product of the ordinary manufacturing plant. The electric plant must always have a certain amount of equipment ready to serve a customer, and the larger the customer the more equipment is necessary. Every rate schedule should take this fact into consideration, and should be so constructed that the number of hours a day that a customer uses his installation, be it large or small, will determine whether he shall get a relatively low rate or not. It is with these considerations in mind that we have worked out a schedule for the utility at Mosinee based on these principles and similar to the schedules prescribed for other utilities for which the Commission has had occasion to adjust rates. This schedule reads as follows: 12 cts. per kw-hr. for the first 30 kw-hr. per month per kilowatt of active load, 10 cts. per kw-hr. for the next 60 kw-hr. per month per kilowatt of active load, and 7 cts. per kw-hr. for all over 90 kw-hr. per month of the active connected load. This rate looks formidable at first glance, but in reality it is quite simple, as will be noted from the illustrations given at the end of this decision. As shown in the next table, this schedule will provide revenue sufficient to cover the cost as exhibited in Table IV.

The rate for power at the present time is 10 cts. per kw-hr. with a minimum monthly bill of $1.00 for the first horse power and 50 cts. for each additional horse power up to 10 horse power. This rate is subject practically to the same criticism that was made of the lighting rate and to the further criticism that it is prohibitive to any one desiring to use a considerable amount of power. For these reasons the power rate has been changed so that it will read 50 cts. per month per horse power of nominal rated capacity plus 5 cts. per kw-hr. of energy consumed, provided that the total charge shall not be more than it would be under the present rate, with the minimum bill on the first horse power reduced to 50 cts. It happens that the present power users will be affected but slightly by this change in the type of rate unless they should use more current, in which event their bills will be reduced.

The company has one special contract with a power customer who has a 15 h. p. motor and to whom an independent line about a quarter of a mile long was built. This particular customer pays 5 cts. per kw-hr. for current, and is subject to a minimum monthly bill of $15. In view of the circumstances surrounding the supplying of current to this customer, it seems reasonable to leave his rate as it is now.

The minimum monthly bill for lighting at the present time is 75 cts. Mr. Hanowitz maintained at the hearing that this charge was unreasonably high and that quite a few new customers could be added if the minimum bill were reduced to 50 cts. per month. We are of the opinion that at least the latter assertion is true, because the smallest consumers buy electricity on the basis of the minimum bill for the year instead of on the basis of a certain rate per kilowatt hour consumed. If there is a choice between a payment of $6 or $9 a year, it can readily be seen that more people will take service when the minimum payment is $6 than when it is $9. We feel that it is the duty of every public service company to extend its service to reach as many consumers as possible. Some of these consumers may not be as profitable as others, yet so long as they are not a burden and do not actually hinder the proper development of the utility, they should be offered a rate that will enable them to enjoy the convenience of electricity in their homes. Each case, however, must be decided on its own merits. We have found instances where it was inadvisable to establish a minimum bill of less than $1 per month. In the case at hand, however, the revenues are sufficient to permit a more extended use of the service among small consumers and we consequently feel justified in fixing the minimum monthly bill at 50 cts. The actual additional expenses that would be occasioned in taking on minimum bill consumers can easily be computed. Assume that the service wire and a meter will cost about $12. If we allow 13.5 per cent on this amount for interest, depreciation, and taxes, the additional fixed charges will amount to $1.62 a year or 13.5 cts. per month. With a rate of 12 cts. per kw-hr. for current it would be possible for a consumer to use 4 kw-hr. under the minimum bill. The company pays 3 cts. per kw-hr. for current. If there is a 25 per cent loss in distribution a kilowatt-hour at the consumers's meter would therefore cost 3.75 cts. and 4 kw-hr. would cost 15 cts. Adding the current cost of 15 cts. to the fixed

cost of 13.5 cts. we get 28.5 cts. as the additional expense of taking on a consumer who would not use more than 50 cts. worth of current a month. This would leave 21.5 cts. per month from each of such consumers to help defray the other expenses. If each consumer were assessed with his proportionate part of all the expenses, a minimum bill of 50 cts. per month would be too small, but it seems to us that it is more logical to determine what expenses will be increased by supplying these small consumers; then, if the other circumstances warrant, a minimum bill should be fixed that will cover these additional expenses and leave a small excess that can be used to reduce the cost to the regular consumers. In this case we see that each additional minimum bill consumer will pay, besides the additional expense he occasions, 21.5 cts. that can be used to help defray the expenses that will not be appreciably increased by his becoming a consumer, which are the fixed charges on the distribution system and the regular operating expenses. The total amount received in this manner will not, as a matter of fact, be enough to make much difference in the total revenue of the utility, but this does not invalidate the contention that these small customers are actually a source of some small profit. Of course, we realize that small consumers of this kind can not be added indefinitely without overthrowing the foregoing conclusions, but we feel that no such number will be added at Mcsinee.

Even with a minimum bill of 50 cts. there will be months when some consumers will not use all the current they are entitled to use under it. From data obtained from the company showing the amount of current used by each customer each month, it has been found that the revenue from a minimum bill of 50 cts. will be $38.63 a year on the basis of the number of customers and current consumed during the last fiscal year.

The next table shows the probable revenue from the rates suggested for the different classes of service. In determining the revenue from commercial lighting an analysis was made of the current consumed which showed that 38 per cent of it was used in the primary group, 40 per cent in the secondary and 22 per cent in the excess. By multiplying the number of kilowatt-hours in each group by the rate, and adding the amounts thus obtained for each group to the revenue from minimum bills, the probable revenue for commercial lighting was found.

TABLE V.

Commercial Lighting		
Primary 6,803 kw-hr. at 12 cts.	$816.36	
Secondary 7,176 " 10 "	717.60	
Excess 3,896 " 7 "	272.72	
Minimum bill, 50 cts. per month	38.63	
Total commercial lighting		$1,845.31
Commercial Power		
653 kw-hr. at 5 cts. plus service charge and revenue from minimum bill	$79.10	
Special contract	189.00	
Total commercial power		268.10
Street Lighting		
34 lamps at $16.00 per year		544.00
Total probable revenue		$2,657.41

It will be noted that the total expense, as shown in Table IV, is $2,620.47. The probable revenue on the basis of the number of consumers and the current sales for the fiscal year 1913, amounts to $2,657.41, leaving an excess of $36.94 of revenue over cost. In view of the fact that this utility had been in operation only about one year and a half at the time of its last annual report to this Commission, during which time it hardly could reach normal operating conditions, it seems to us that no further reduction is warranted at present. It may be that the utility will increase the number of its consumers and its total sales without a proportionate increase in investment and operating expense,—at least it can be expected to do this—but this possibility is hardly sufficient ground for a further reduction at the present time.

It seems advisable to explain the new rate for commercial lighting. The rate that the company has been using is based only on the amount of current used, whereas the new rate is based both on the size of the installation and the amount of current used. The difference between the two rates is that in the former the steps according to which the charge varies are the same for all consumers, large and small, while in the latter rate the steps vary for each consumer according to the size of the installation. After the steps have once been determined for a consumer the data obtained become a part of the company's record and the computation of the monthly bill remains exactly the same as it is under the old increment schedule.

The determination of the steps for each consumer separately seems at first sight a little complex. The rate we are prescribing reads: 12 cts. for the first 30 kw-hr. per month per kw. of active load. The active load is merely a fixed percentage of the connected load, excluding appliances, that is, the active load is based only on the lamps installed. After the active load has been determined, the next thing to do is to multiply it by 30 in order to find the number of kilowatts to which the primary rate is to apply. The second step, being the next 60 kw-hr. per kw. of active load, is just twice the first step, and the third step or excess is merely the balance remaining over the sum of the first two. Thus, if by multiplying the active load of a particular consumer by 30, it was found that 10 kw-hr. were in the first step, or in other words that the primary rate applied to the first 10 kw-hr., then there would be 20 kw-hr. in the second step and all over 30 kw-hr. would be in the third step or excess.

In order to establish a more equitable relation between lighting consumers these consumers are divided into three classes, as will be noted from an inspection of the schedule given below, a different percentage is fixed for each class and from this percentage the active load is determined. The following examples will illustrate the working of the new schedule:

Computation of a Monthly bill for a Residence.

Connected Load
15 40-w. lamps = 600 watts.
Active Load.

60	per cent of the first	500	watts	= 300	watts
33⅓	" "	balance of 100	"	= 33	"
	Total active load.....			333	"

First 30 kw-hr. per month per kw. of active load, .333 x 30 =9.99 kw-hr.
Next 60 kw-hr. per month per kw. of active load, .333 x 60 = 19.98 kw-hr.
All over 60 kw-hr. per month per kw. of active load, .333 x 90 = 29.97 kw-hr.

For practical purposes the decimals can be omitted and the nearest whole number used. Assuming that this particular consumer used 13 kw-hr. during the month, according to the meter on his premises, his bill would be computed as follows:

First 10 kw-hr. at 13 cts =	$1.30
Next 3 " " 11 " =	.33
Total gross bill...	$1.63
Discount[1]	.13
Total net bill	$1.50

Computation of a Monthly Bill for a Store.

Connected Load
50 60-watt lamps—3,000 watts.
Active Load

70 per cent of the first	2,500 watts	=	1,750 watts
55 " " " " balance of	500 "	=	275 "
Total active load			2,025 "

First 30 kw-hr. per month per kw. of active load 2.025 x 30 = 60.75 kw-hr.
Next 60 kw-hr. per month per kw. of active load 2.025 x 60 = 121.5 kw-hr.
All over 90 kw-hr. per month per kw. of active load 2.025 x 90 = 182.25 kw-hr.

Assuming that this consumer used 195 kw-hr. during the month, according to the meter on his premises, his bill would be computed as follows:

First	61 kw-hr. at 13 cts. =		$ 7.93
Next	121 " " 11 " =		13.31
Next	13 " " 8 " =		1.04
Total gross bill.....			$22.28
Discount[1]			1.95
Total net bill.....			$20.33

IT IS ORDERED, That the Mosinee Electric Light and Power Company discontinue its present schedule of rates and place in effect the following:

[1] It will be noted that the bill is computed at the gross rate. The difference between the gross and net rate, or 1 ct. per kw-hr., constitutes a discount for payment on or before the 15th of the month.

Commercial Lighting.

For all lighting service furnished residences and businesses (hereinafter specifically referred to as classes A, B and C) including such incidental use of appliances for heating and power used on lighting circuits and passing through the same meter, and measured by a meter or meters owned and installed by the company, a charge of

Primary rate: 12 cts. net, or 13 cts. gross, per kilowatt-hour for current used equivalent to or less than the first 30 kilowatt-hours per month per kilowatt of active connected load.

Secondary rate: 10 cts. net or 11 cts. gross per kilowatt-hour for current used equivalent to or less than the next 60 kilowatt-hours per month per kilowatt of active connected load.

Excess rate: 7 cts. net or 8 cts. gross per kilowatt-hour for current used in excess of the above 90 kilowatt-hours per month of active connected load.

Active connected load shall in each case be a fixed percentage of the total connected load of the lamps installed on the consumer's premises, excluding appliances.

Class A includes residences, flats and private rooming houses. Where the total connected load is equal to or less than 500 watts nominal rated capacity, 60 per cent of such total connected load shall be deemed active; where the installation exceeds 500 watts nominal rated capacity, 33⅓ per cent of the excess of the total connected load over and above 500 watts shall be deemed active.

Class B includes stores, saloons, offices, banks, halls, theaters and all others not herein otherwise specifically provided for. In this class 70 per cent of the first 2.5 kw. and 55 per cent of all additional connected load shall be deemed active.

Class C includes churches, industrial establishments, livery stables, garages, barns, club rooms, hotels, schools, libraries, city hall and hospitals. In this 55 per cent of the connected load shall be deemed active.

Minimum Bill. The minimum bill shall be 50 cts. per month. Where the utility is unable to read meter after reasonable effort the fact should be plainly indicated upon the monthly bill, the minimum charge assessed and differences adjusted with the consumer when the meter is again read.

Discount. The utility shall bill all consumers at the gross rate, and the difference between the gross and net rates above specified, or one cent per kilowatt-hour, shall constitute a discount for payment on or before the 15th of the month.

Reconnection of meter. For the reconnection of a meter for the same consumer upon the same premises a charge of $1 is deemed reasonable.

Commercial Power.

For current used for power purposes and measured by meters owned and installed by the company, the rate shall be:

Service charge: 50 cts. per month for the first horse power or fraction thereof and 50 cts. for each additional horse power of connected load.

Energy charge: 5 cts. net or 6 cts. gross per kilowatt-hour for all current consumed.

The maximum rate for power shall, however, not exceed 10 cts. per kilowatt-hour, nor shall the minimum monthly bill be less than 50 cts. for the first horse power or fraction thereof and 50 cts. for each additional horse power of connected load.

The provisions for discount and reconnection of meters, as stated under the schedule for commercial lighting, shall also apply to power.

The special contract with one power customer shall remain unchanged.

Street Lighting.

The rate for street lighting shall be $16 per year per 125 watt lamp burning from dusk to 11 p. m. every night.

IN RE APPLICATION OF THE OAKFIELD TELPEHONE COMPANY FOR AUTHORITY TO INCREASE RATES.

Submitted Jan. 22, 1914. Decided Feb. 9, 1914.

The Oakfield Tel. Co. applies for authority to increase its message rates for toll messages sent from Oakfield to Fond du Lac over the lines of the Wis. Tel. Co. in Fond du Lac. The rates now legally in effect are 5 cts. to subscribers and 10 cts. to non-subscribers for five minutes or less. The applicant desires to have the 10 ct. rate made the legal rate for subscribers as well as for non-subscribers in order to compensate for an increase in the charge made by the Wis. Tel. Co. for distributing messages sent by the applicant.

The charge of 10 cts. per message which the applicant has for some months been exacting from its subscribers for the service in question was not sanctioned by the Commission and is therefore an illegal charge.

Held: A proper adjustment of the message rate from Oakfield to Fond du Lac can not be secured except by an action to fix a joint rate for the Oakfield Tel. Co. and the Wis. Tel. Co. For this reason and for the further reason that the reports of the applicant do not indicate a need for increasing the revenue of the business as a whole the petition is dismissed without passing upon the reasonableness of the increased rate proposed by the applicant.

Application in this matter was dated December 29, 1913. The applicant, the Oakfield Telephone Company, is a corporation organized and doing business under the laws of the state of Wisconsin, and is a public utility engaged in the management and operation of a telephone utility in the village of Oakfield and surrounding towns. The application states the legal rates of the utility in effect at the time of filing the petition. The only portion of these rates involved in this case are the rates for toll messages from Oakfield to Fond du Lac. The legal rate to subscribers for five minutes or less is 5 cts. per message, and to non-subscribers 10 cts. per message. In its application the Oakfield Telephone Company shows that the toll rate from Fond du Lac to Oakfield has been 10 cts. ever since the organization of the Oakfield company, that it costs the applicant 5 cts. to distribute each and every message sent from Oakfield to Fond du Lac over the lines of the Wisconsin Telephone Company in

Fond du Lac, so that, where a message rate of 5 cts. is charged, the Oakfield company has nothing left to pay for the service rendered by it. It is also pointed out in the petition that, owing to increased toll business between Oakfield and Fond du Lac, it has been necessary to construct a second full metallic toll circuit between those places. Applicant asks to have a rate of 10 cts. per message for messages of five minutes or less made the legal rate both for subscribers and for non-subscribers between Oakfield and Fond du Lac.

Hearing in this matter was held January 22, 1914, at Madison. Appearances for the petitioning company were *J. H. Byrne,* president; *W. E. Bristol,* secretary; and *T. E. Worthy,* manager. No one appeared in opposition. Very little was brought out in the way of testimony at the hearing which has any material bearing on the question of the reasonableness of increasing the toll rate. It was, however, pointed out that there are from four hundred to five hundred calls per month from Oakfield to Fond du Lac. According to this, the additional 5 cts. which the applicant seeks to have authorized would yield a revenue of approximately $250 to $300 per year.

Correspondence with the company subsequent to the hearing developed the fact that the utility has actually been charging the 10 ct. message rate since March 1, 1913. This, however, has been an illegal charge, which the utility could not properly collect. It appears that prior to March 1, 1913, the Wisconsin Telephone Company charged the Oakfield Telephone Company 3 cts. per message for distributing messages in the city of Fond du Lac, so that the Oakfield Telephone Company retained 2 cts. per message on each message sent from Oakfield to Fond du Lac. On March 1, 1913, the Wisconsin Telephone Company increased its charge for distributing messages to 5 cts. per message, so that the Oakfield company, unless it increased the toll rate, had nothing left of the message charge. Consequently, the Oakfield Telephone Company increased its message rate to 10 cts.

The reports filed by the Oakfield Telephone Company for the years ending June 30, 1912, and June 30, 1913, showed a cost of plant of $14,105.39 and $15,212.86, respectively. The total operating revenues for 1912 were $5,409.06, and for 1913, $5,654.50. Total expenses for these two years, including the allowance made by the company for depreciation, which appears

to have been reasonably adequate, and including taxes, were respectively $3,784.12 and $3,538.53, leaving available for return on investment $1,624.94 in 1912, and $2,115.97 in 1913. Upon an investment of approximately $15,000, the amounts available for return upon property have been in excess of 10 per cent for both years, and for 1913 the amount was nearly 14 per cent.

Under these conditions it does not seem that the necessity for increased revenue can be given as a reason for increasing the message rate. This does not mean that a company which is doing a profitable business should not charge a message rate in cases similar to this. A refusal to authorize the message rate in this case, however, will not cause any serious hardship. A proper adjustment of the message rate from Oakfield to Fond du Lac cannot be secured except by an action to fix a joint rate for the Oakfield Telephone Company and the Wisconsin Telephone Company on this service. Therefore, in refusing to authorize any increase from the present legal rate of 5 cts., the Commission does not state that it considers 5 cts. the highest reasonable rate for this service, but holds that in order to establish a reasonable rate for this service the Commission must have an action brought before it which will give it jurisdiction over the entire toll business and not merely over that portion of the toll business between Oakfield and Fond du Lac which is carried on the Oakfield company's line. Because of this condition, and because of the fact that the reports of the Oakfield Telephone Company do not indicate a need for further revenue upon the business as a whole, we believe that the application should be denied and that any readjustment of this toll rate should be undertaken only in case an application is made for the fixing of a joint toll rate, which will give the Commission jurisdiction over the entire message.

IT IS THEREFORE ORDERED, That the application of the Oakfield Telephone Company for authority to increase its toll message rate to subscribers for messages of five minutes or less from Oakfield to Fond du Lac from 5 cts. to 10 cts. be and the same is hereby dismissed.

TOWN OF CLEVELAND

vs.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted Jan. 20, 1914. Decided Feb. 10, 1914.

The petitioner alleges that a highway crossing on the respondent's line, about two miles north of Stratford in the town of Cleveland, Marathon county, is dangerous.

Held: The crossing requires further protection than that afforded by the crossing signs now used to protect it. The respondent is therefore ordered to install and maintain a bell at the crossing within 90 days, plans to be submitted for approval.

The petitioner, a regularly organized town in Marathon county, alleges in substance that a highway crossing on the line of the Chicago & North Western Railway Company, about two miles north of Stratford in the town of Cleveland, is dangerous to public travel on account of the surrounding physical conditions. The Commission is therefore asked to require the respondent to properly safeguard this crossing.

The respondent, in its answer, alleges that it has arranged to install special crossing signs at the designated crossing which it believes will afford sufficient protection, having in view the amount of travel over the crossing and its condition and location. The dismissal of the complaint is therefore asked.

Hearings were held at Marshfield on November 25, 1913, and at Edgar on January 20, 1914, *C. A. Vilas* appearing for the respondent. Since the notice of the first hearing failed to reach the town chairman, the petitioner was represented only at the second hearing, at which *Albert Nahring* appeared in its behalf.

The testimony shows that the crossing referred to in the complaint is known locally as the "Rock crossing." The highway runs east and west and the railway approximately north and south, being on a curve at this point. The road descends from the east to the tracks on a sharp grade. From this approach the view is fairly open to the north, but is very much obstructed to the south by a rock cut and the curvature of the track. On the

west approach the highway ascends from a bridge over a small stream about 150 feet from the track. The view to the north is comparatively unobstructed, but the view to the south is obstructed by the cut and by trees and brush along the stream. The town chairman testified that a traveler must be within the right of way lines to see a train to the south from either approach, but that the most dangerous condition is on the east approach where the view is more completely obstructed, and where many heavily loaded teams are obliged to approach the track on a steep down grade.

The company's superintendent stated that at the east right of way line, about 50 feet from the track, a train can be seen 1,500 feet to the north and 130 feet to the south, and that from a similar position west of the track a view may be had for 150 feet to the north and 200 feet to the south. At a point 200 feet west of the track, he said, a train can be seen 900 feet to the south.

The limits of vision at this crossing, as observed on July 2, 1913, by the Commission's engineer, are reported as follows:

Distance of point of observation in highway from track.	View north.	View south.
West 50 feet	¼ mile	250 feet.
" 100 "	¼ "	100 "
" 200 "	40 feet	80 "
" 300 "	30 "	500 "
East 50 "	¼ mile	175 "
" 100 "	250 feet	150 "
" 200 "	40 "	150 "
" 300 "	20 "	100 "

The highway is a crossroad connecting a community of about forty settlers living east of the track with a main road west of the railway line. It was built before the railway, but for many years was very lightly traveled. It is now in fairly good condition and is used by from sixteen to twenty teams a day on the average, according to the estimate of the town chairman. The heaviest travel is during the winter months when wood is being hauled to Stratford. A count introduced by the respondent shows sixteen teams from 10:30 a. m. to 6 p. m. on October 23, 1913, and ten teams during the same period on the following day. There are four passenger train movements and three freight train movements daily. In addition two freight trains run three times a week and some extra trains are operated.

Three regular train movements occur after 6 p. m. The superintendent testified that the speed of passenger trains at the crossing is limited to fifteen miles an hour and that of freight trains to ten miles an hour on account of the curve in the track. He pointed out that, because of the up grade, engines make considerable noise in approaching from the south. The town chairman described several narrow escapes at the crossing.

The company has installed a standard crossing sign on each side of the crossing. Counsel took the position that this protection is adequate in view of the relatively light traffic and the existing operating conditions on the railway. It was pointed out that no crossing bells are now installed in this vicinity, and that the maintenance of such a bell would therefore be more costly than usual.

From an examination of the testimony and of the report of our engineer it is evident that this crossing is one of unusual danger on account of its physical surroundings, and in our judgment the crossing signs which have been installed by the company are not a sufficient protection. As shown in the testimony, most of those who use this crossing are residents of the locality and are aware of its existence; but to properly protect these travelers, who are often obliged to approach the crossing on a down grade with a heavily loaded vehicle, it is necessary that some warning should be given of approaching trains in the absence of a reasonably unobstructed view. In our opinion the installation of bell protection is necessary at the crossing in question.

IT IS THEREFORE ORDERED, That the respondent, the Chicago & North Western Railway Company, install and maintain at the "Rock" crossing on its line, two miles north of Stratford in the town of Cleveland, an automatic electric bell with an illuminated sign for night indication, plans for track circuits to be submitted to the Commission for approval.

Ninety days is considered a sufficient time within which to comply with this order.

JAMES CALLEN JR., ET AL.

vs.

CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Submitted Dec. 22, 1913. Decided Feb. 10, 1914.

The petitioners allege that the respondent's passenger train service at Caledonia, Racine county, is inadequate and ask that the respondent be required to stop its trains No. 9 and No. 24 at Caledonia on signal to receive and discharge passengers. Under the present schedule, residents of the territory surrounding Caledonia are unable to reach the county seat at Racine over the respondent's line and return the same day, although the distance one way is only fifteen miles. The respondent objects to the granting of the request of the petitioners on the ground that the trains named are interstate trains operating between Chicago and Upper Michigan in competition with interstate trains on the C. & N. W. system.

Held: The southbound train service at Caledonia is inadequate. The respondent is ordered to stop its train No. 24, scheduled to leave Milwaukee at 7:30 a. m., at Caledonia on signal to receive and discharge passengers, or, at its option, to so adjust its service that residents of Caledonia will be enabled to reach Racine and return the same day, having a reasonable amount of time at that city during business hours for the transaction of business.

The petition alleges that the passenger train service at Caledonia in Racine county on the line of the Chicago, Milwaukee & St. Paul Railway Company is inadequate, and prays that the Commission require the respondent to stop its trains No. 9 and No. 24 at Caledonia on signal to receive and discharge passengers.

The respondent, in its answer, alleges that it is now and has for a long time past been stopping two passenger trains each way each day at Caledonia, thereby fully complying with the requirements of law. It therefore asks that the complaint be dismissed.

A hearing was held at Milwaukee on December 22, 1913. *James Callen, Jr.,* appeared for the petitioners and *J. N. Davis* for the respondent.

Caledonia is a country station surrounded by a thickly settled farming community. The township of the same name has a population of 3,073 according to the census of 1910. A witness

estimated that from thirty to forty passengers board or alight from trains at this station daily on the average. Caledonia is fifteen miles distant from Racine which is its county seat.

The chief complaint of the petitioners is that under the existing schedule residents of the territory surrounding Caledonia are unable to reach the county seat at Racine over the respondent's line and return the same day. The earliest southbound train which stops at Caledonia reaches Corliss at 12:50 p. m., connecting there with a train which arrives in Racine at 1:20 p. m. The latest train northbound which stops at Caledonia leaves Racine at 1:50 p. m. Thus, if trains are on time, only thirty minutes are available for business purposes if the trip is made in a single day. If trains No. 9 and No. 24 stopped at Caledonia it would then be possible for the petitioners to reach Racine at 8:25 a. m. and leave there at 5:55 p. m. on the same day. Petitioners testified that, under the existing schedule, if they wish to make a business trip to the county seat and return the same day, they are obliged to drive to Racine or make use of the interurban cars on the Chicago & Milwaukee Electric Railway Company's line, the nearest station on which is 3¾ miles from Caledonia. It was also pointed out that it is impossible to make a trip from Caledonia to Burlington, Elkhorn, Janesville or Madison and return the same day.

The respondent's superintendent testified that three northbound trains and two southbound trains stop at Caledonia. These trains are shown in the railway folder as follows:

Northbound Trains.				*Southbound Trains.*	
No. 241.	No. 31.	No. 103.		No. 90.	No. 44.
a. m.	a. m.	p. m.		p. m.	p. m.
*7:35	*8:40	1:50	Lv. ..... Racine ..... Arr.	1:20	5:00**
8:17	9:16	2:44	" ..... Caledonia ..... "	12:32	3:45
9:05	9:50	3:20	Arr. ..... Milwaukee ..... Lv.	12:01	3:10

* Daily except Sunday.
** Daily.

The superintendent stated that trains No. 9 and No. 24, which the petitioners desire to have stopped at Caledonia, are interstate trains operated between Chicago and Upper Michigan in competition with interstate trains on the Chicago & North West-

ern system. He testified that with their present stops it is difficult to maintain the schedules of these trains.

From a careful examination of the testimony and of the schedules now in operation on the respondent's line we find that the southbound train service at Caledonia is inadequate. When a railroad company operates a number of morning trains over its line which could be stopped without serious interference with their schedules, we do not regard it as adequate service, at a station such as Caledonia, if no train is stopped until the afternoon and the residents of the locality are thereby deprived of the privilege of making a trip to their county seat, a distance of only fifteen miles, and returning the same day. Practically all passenger trains on this division operate between Chicago, Ill., and Milwaukee, Wis., and are therefore interstate trains. However, in the present case, the service for intrastate passenger traffic is clearly inadequate, and under such circumstances the Commission feels that the order herein is entirely justified.

IT IS THEREFORE ORDERED, That the respondent, the Chicago, Milwaukee & St. Paul Railway Company, stop its train number 24, scheduled to leave Milwaukee at 7:30 a. m., at Caledonia on signal to receive and discharge passengers; or, at its option, so readjust its service that residents of Caledonia will be enabled to reach Racine and return the same day, having a reasonable amount of time at that city during business hours for the transaction of business.

PULP AND PAPER MANUFACTURERS TRAFFIC ASSOCIATION

vs.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY,
CHICAGO, BURLINGTON AND QUINCY RAILROAD COMPANY,
CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY,
CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY COMPANY,
DULUTH, SOUTH SHORE AND ATLANTIC RAILWAY COMPANY,
FAIRCHILD AND NORTHEASTERN RAILWAY COMPANY,
GREEN BAY AND WESTERN RAILROAD COMPANY,
HAZELHURST AND SOUTHEASTERN RAILROAD COMPANY,
LAONA AND NORTHERN RAILWAY COMPANY,
MARINETTE, TOMAHAWK AND WESTERN RAILWAY COMPANY,
MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY,
NORTHERN PACIFIC RAILWAY COMPANY,
STANLEY, MERRILL AND PHILLIPS RAILWAY COMPANY,
WISCONSIN AND MICHIGAN RAILWAY COMPANY,
WISCONSIN AND NORTHERN RAILROAD COMPANY.

Submitted Oct. 7, 1913. Decided Feb. 11, 1914.

Petition is made for the establishment of joint rates on pulp wood to be applicable throughout the state. The petitioner alleges that the joint rates now charged, which are made up of the sum of the local rates, are excessive, unjust and unreasonable and that, because of the growing scarcity of pulp wood in Wisconsin and the consequently increasing length of haul, these rates place the Wisconsin mills at a disadvantage in their competition with mills in Minnesota and New England. The petitioner suggests that joint rates equal to 80 per cent of the sum of the local rates would be reasonable. Two of the respondents, the Stanley, Merrill Phillips Ry. Co. and the M. St. P. & S. S. M. Ry. Co., contend that the establishment of such rates would work them an injustice by encouraging the shipping from the territory served by them of raw material which is needed to supply local industries already established there. Another of the respondents, the C. & N. W. Ry. Co., proposes the establishment of joint rates equal to the one-line-haul rates plus 1 ct. per cwt. to compensate for the additional terminal or transfer expenses. The effects of the rates suggested are analyzed and compared with the effects of other rates based upon the one-line-haul rate plus arbitraries of different amounts.

It is against public policy to permit a railroad company to put into effect rates which will operate to seclude large timber resources for its sole benefit and exclude from sharing in those resources other portions of the state which have an equal need for them, for such action would lead to monopoly of the most offensive sort. In general it is the plain duty of transportation to do all that it may to lessen the inequalities existing between in-

dustries located in close proximity to the raw material they require and industries further removed from their sources of supply.

It may be assumed as a general rule in tariff making that where two or more railroad lines are used the joint rate should be less than the sum of the several rates. The joint rate should, however, be higher than the one-line-haul rate because of the added terminal or transfer costs incurred in a joint haul.

Held: Joint rates computed by adding an arbitrary of ¾ of a cent per cwt. to the present single-line distance rates for each transfer from one road to another, are reasonable for the traffic in question. The respondents are therefore ordered to establish such joint rates to apply to shipments of pulp wood in carloads.

This case comes before the Commission in the form of a petition by the Pulp & Paper Manufacturers Traffic Association for the fixing of joint rates on pulp wood applicable throughout the state. The association named comprises forty companies which operate sixty pulp and paper mills, mostly in Wisconsin. The petition recites that in the manufacture of paper and pulp large quantities of pulp wood are used which have to be transported from various points within the state to the mills of the petitioner; that where this commodity has to be shipped over two or more lines of railway to reach its destination the railway companies charge as a joint rate the sum of the local rates, and that this combined rate is excessive, unjust and unreasonable.

A hearing was held in the offices of the Commission at Madison, on October 7, 1913. Appearances were: For the petitioner: *Felix J. Streyckmans* and *W. D. Hurlburt*. For the railway companies: *C. C. Wright, E. P. Eyman, A. H. Lossow* and *E. C. Clark* for M. St. P. & S. S. M. Ry. Co.; *J. N. Davis* and *J. M. Davis* for C. M. & St. P. Ry. Co.; *H. W. Hodge* for Stanley, Merrill & Phillips Ry. Co.; *H. N. Breckheimer* for Wisconsin & Michigan R. R. Co.

Upon the complaint of the petitioner in the present case and after due hearing and consideration, the Commission, on January 25, 1913, made an order (*Pulp & Paper Mfrs. Traffic Assn. v. C. & N. W. R. Co. et al.* 11 W. R. C. R. 365) establishing new and lower rates for pulp wood in carload lots. To the rates then fixed no objection is raised in the case now under consideration by either the petitioner or the respondent companies, except on the part of the former to the combining of the local rates to make a joint rate. Following the hearing of October 7, 1913, the petitioner and three of the respondent companies filed briefs with the Commission.

At the hearing and in the brief submitted the petitioner alleged that there is a growing scarcity of pulp wood and a steadily increasing length of haul, as the mills must go farther and farther to secure the needed supply. This constantly lengthening haul makes the combined local rates, when the shipment is over two or more lines, almost prohibitive in some cases and in all cases places the Wisconsin mills at a disadvantage in comparison with mills in Minnesota and New England. It is universally conceded that where two or more lines are used the joint rate should be less than the sum of the several rates. It is true also, the petitioner conceded, that a joint rate should be higher than the one-line-haul rate because of the added terminal or transfer costs, and the Commission, rather than the railroads, should determine how much should be added to the one-line-haul rate to make the joint rate reasonable for both carrier and shipper. The transfers from one line to another, it was alleged, were mostly at small junction points, so that the amount necessary to add to the basal rate need not be large. At the hearing the petitioner suggested that a fair joint rate for general application would be 75 per cent of the sum of the local rates, but in the brief submitted this percentage was raised to 80. The petitioner further pointed out that what was needed was a fixed percentage such as suggested above, or a specified sum to be added to the basal rates, so that a shipper from any point who might have to use two or more lines could know quickly what the charges would be. If the shippers were obliged to bring a complaint for every case in which excessive joint rates were quoted it would cause infinite delay and expense. Hence, what was desired was a fixed percentage or sum which would be generally applicable.

Briefs were submitted for the respondent companies by counsel for the Chicago & North Western Railway Company, by counsel for the Minneapolis, St. Paul & Sault Ste. Marie Railway Company and by the manager of the Stanley, Merrill & Phillips Railway Company. The latter alleged that his company was not in a position to profit by an out-haul on pulp wood; that it had mills of various kinds located along its line because of the timber available there; that these mills had the capacity to utilize all the available raw material; that the mills were needed for the building up of markets and communities which would develop agriculture; and that hence his company pre-

ferred to conserve the timber resources rather than encourage, by favorable rates, an outside demand for them. Counsel for the Chicago & North Western Railway Company contended that when the Railroad Commission a year ago lowered the distance rates on pulp wood, the rates were fixed so that the carrier companies could earn only a reasonable return upon their investments. Shipments over two or more lines involve, even at small junction points, additional terminal or transfer costs, besides taking the cars of the originating company off its own lines, thus requiring larger equipment than otherwise. The facts presented by the petitioner, counsel held, were not sufficient to show the need for special joint rates. If such rates, other than the sum of the local rates, be required, however, they should be made on the basis of 1 ct. per cwt. added to the one-line-haul rate, the addition being necessary to compensate for the extra tranfer terminal cost, the ratio of terminal expenses to total rate being large on such low-class shipments as pulp wood. Counsel for the Minneapolis, St. Paul & Sault Ste. Marie Railway Company alleged that the terminal line only could have the benefit of an out-haul on shipments of pulp wood and that this fact would be a discrimination against the line originating the business in case a level reduction of joint rates were made. The claim of the petitioner that such seeming discrimination would be equalized over the different lines was not well founded, for there could be no such equalization unless all the lines had the same available amount of raw material. Counsel propounded this query: When a carrier has ample raw material only for the industries on its own line, which industries were built up because of the accessible raw material, is it fair to compel the carrier to so reduce its charges that outside industries would be enabled to bid successfully for a part of the available supply? Counsel contended further that if the pulp wood rates established by the Commission a year ago brought the carriers only a reasonable return, then it was unreasonable to propose at this time the equivalent of a 20 per cent reduction in those rates. If there ever were a time when rates should not be reduced, counsel alleges, that it is now, when the net revenue of the railroads is steadily diminishing.

The plea of the Stanley, Merrill & Phillips Railway Company that it has a sufficient number of industries along its line to utilize within a reasonable number of years all the available

saw timber and pulp wood; that it depends upon the maintenance of these mills to build up communities and markets through which the agricultural possibilities of the country shall be developed (the sole hope of the investors in the railroad property getting any return resting upon agricultural development), and that to compel it to make low joint rates which would encourage mills far removed to come into the territory and take the available raw material, would be, in effect, to compel a discrimination against the local industries and the railroad itself, deserves some attention. Counsel for the Minneapolis, St. Paul & Sault Ste. Marie Railway Company raises a similar objection, claiming that the establishment of joint rates, particularly on this commodity, would work directly against the interests of his company. Counsel claims that upon his company's line there are ample industries to utilize all the timber material available and that, moreover, his company has greater timber resources than all the other lines interested combined, hence the rates asked for would not only take away from the road's local industries the material they require, but the "Soo", being in every case the originating road for the business, would get no share of the out-haul. The objections raised by these two roads may be considered together.

It may be conceded that the above objections seem to make a reasonable appeal for the maintenance of present rates. All that the two railroad companies could do legitimately to develop industrial enterprises along their lines has been done, with the apparent result of there being a prospective local demand for all the available timber products. Both the railroad companies and the industrial interests along their lines are apparently satisfied with this state of affairs and prefer that it should not be changed. Standing alone the proposition that a railroad company should use all legitimate means to build up industries along its lines and encourage their maintenance when once established is not open to criticism, providing always that such a practice does not involve a direct injustice to other industries or other people. "No man liveth to himself", and no railroad or industry can long thrive in a large way which disregards this principle of inter-dependence. Briefly stated, the proposition which these two companies would like to have maintained is that they shall be permitted to seclude large timber resources for the sole benefit of themselves and exclude from sharing in

those resources the other portions of the state which have an equal need for them. This would be monopoly of the most offensive sort. It needs but a statement of the proposition to show the inherent injustice of it and the short-sightedness of it from an economic point of view. For these companies to contend that they have no desire to deprive other portions of the state of the benefits of their timber resources, while they seek to have rates maintained that shall operate to so deprive, in no way changes the policy which by implication they advocate.

Doubtless there have been times when society was still in a primitive state when such a narrow policy might have been temporarily justified. It will hardly be contended by either of the railway companies making the plea, however, that the logical ultimate of such a policy, namely that it would be right to impair or wreck one industrial enterprise for the purpose of increasing the profits of a similar enterprise located elsewhere, would be justifiable. It is precisely this destructive monopoly policy which modern economic thought and ethics have set themselves firmly against.

Upon this same point the Commission in a decision and order issued on May 7, 1909, (*Wis. Retail Lbr. Dealers' Assn. v. C. & N. W. R. Co. et al.* 3 W. R. C. R. 471, 481) establishing joint rates on lumber said:

"There may be no objection to having railways exert every proper effort to favor enterprises upon their lines. It may even be laudable to do so. Yet, when this ambition to maintain the integrity of an isolated railway domain and to foster the men and industries within that domain goes to the extent of establishing artificial trade relations and exclusive markets, the right to continue to pursue such a policy may well be drawn in question."

It is inevitable that industries located in close proximity to the raw material they require will have an advantage over industries far removed from their sources of supply. It is not within the power of transportation wholly to remove this inequality, nevertheless, it is the plain duty of transportation to do all it may to lessen the inequality. This is not only sound as an economic proposition, but, with society constituted as it is, it is an imperative ethical demand.

We come now to a consideration of the modifications in joint rates which have been suggested—one plan by the petitioner and

another one by one of the respondent companies. The one proposed by the petitioner is that a fair joint rate would be 80 per cent of the sum of the local rates. The other a plan proposed by the counsel for the Chicago & North Western Railway Company, is that a 1 ct. per cwt. arbitrary be added to the one-line-haul rate to compensate for the additional terminal or transfer costs.

Mr. Hurlburt for the petitioner has very carefully worked out a set of tables to show the effect an 80 per cent rate would have upon the different combinations. He has also a table illustrating the effect of a 1 ct. per cwt. arbitrary upon the same combinations. Beginning with a 5-mile haul he has carried his comparisons forward in 5-mile intervals up to a 300-mile combined haul. In his first column he gives the distance rates fixed by the Commission for pulp wood with the 1 ct. arbitrary added. In the next column he gives the combined local rates now charged, and in the fourth column the rates that would obtain if the joint rate were fixed at 80 per cent of the combined locals. The error in Mr. Hurlburt's calculation, as shown in Table I, is that he has failed to consider the additional transfer cost, which his 80 per cent calculation does not adequately cover.

In the opinion delivered by the Commission in issuing its order of January 25, 1913, in *Pulp & Paper Mfrs. Traffic Assn. v. C. & N. W. R. Co. et al.* 11 W. R. C. R. 365, establishing distance rates on pulp wood, the cost-of-service question was rather exhaustively discussed, and it will not be necessary to take up that phase of the subject again, further than to consider the additional terminal costs incident to a joint haul. In Table II is shown the relation of joint rates to costs when certain arbitraries are added to the distance rates established by the Commission in the order cited. In this table rates are worked out on the basis of an additional, first of a ¼-ct. per cwt. arbitrary, then a ½-ct., then a ¾-ct., and then a 1-ct. arbitrary.

A careful study of this table and a comparison of it with Table I will make clear the inadequacy of the 80 per cent rate.

TABLE I.

RATES ON PULP WOOD.

TABLE SHOWING IMPRACTIBILITY OF MAKING JOINT RATES 80% OF THE SUM OF THE LOCALS.

Total distance miles.	Single line rate in cts. per cwt.	Single line costs.	10-mile terminal haul.			
			Initial distance.	Actual joint haul costs.	80% of sum of locals.	80% to joint costs.
30	1.85	1.80	20	2.40	2.48	103.3
50	2.25	2.20	40	2.80	2.80	100.0
70	2.62	2.60	60	3.20	3.12	97.5
90	2.90	2.90	80	3.53	3.37	95.5
110	3.15	3.20	100	3.80	3.60	94.7
130	3.35	3.47	120	4.07	3.76	92.4
150	3.55	3.73	140	4.33	3.92	90.5
170	3.80	4.00	160	4.60	4.08	88.7
190	3.80	4.26	180	4.86	4.20	86.4
210	4.20	4.53	200	5.13	4.36	85.0

TABLE II.

RATES ON PULPWOOD.

STATEMENT SHOWING RELATION OF JOINT RATES TO COSTS WHEN CERTAIN ARBITRARIES ARE ADDED TO RATES ESTABLISHED BY COMMISSION'S ORDER OF JANUARY 25, 1913.

Total dist. miles	Single line rate in cts. per cwt.	Single line costs	10 mile terminal haul		Present rate and arbitrary of				Percentage of jt. rates to costs when jt. rate is present rate plus			
			Initial distance	Actual jt. haul costs	¼ cts.	½ cts.	¾ cts.	1 ct.	¼ ct.	½ ct.	¾ ct.	1 ct.
30	1.85	1.80	20	2.40	2.10	2.35	2.60	2.85	87.5	97.9	108.3	118.8
50	2.25	2.20	40	2.80	2.50	2.75	3.00	3.25	89.3	98.2	107.1	116.1
70	2.62	2.60	60	3.20	2.87	3.12	3.37	3.62	89.7	97.5	105.3	113.1
90	2.90	2.93	80	3.53	3.15	3.40	3.65	3.90	89.2	96.3	103.4	110.5
110	3.15	3.20	100	3.80	3.40	3.65	3.90	4.15	89.5	96.1	102.6	109.2
130	3.35	3.47	120	4.07	3.60	3.85	4.10	4.35	88.5	94.6	100.7	106.9
150	3.55	3.73	140	4.33	3.80	4.05	4.30	4.55	87.8	93.5	99.3	105.1
170	3.80	4.00	160	4.60	4.05	4.30	4.55	4.80	88.0	93.5	98.9	104.3
190	3.80	4.26	180	4.86	4.05	4.30	4.55	4.80	83.3	88.5	93.6	98.8
210	4.20	4.53	200	5.13	4.45	4.70	4.95	5.20	86.7	91.6	96.5	101.4

Terminal charges 1.20 cents per cwt.
Movement charges .2 mills per cwt. for first 70 miles.
Movement charges .133 " " " " distances over 70 miles.

The preceding two tables are included for purposes of illustration only, in order to throw additional light on the methods of computing joint rates and are not intended as a representation of the cost of the services involved.

While there are exceptions, it may be assumed as the rule in tariff making that a joint rate over two or more lines should be something less than the sum of the local rates, and for a corresponding reason it should be higher than a one-line-haul rate, there being the cost of switching or transfer in addition to the one-line-haul cost. In the next to the last column of Table II is shown the percentage of the joint rate to cost when that joint rate is composed of the one-line-haul rate plus a ¾ ct. arbitrary. The hauls figured are in 20 mile intervals. It will be noted that up to and including a 140 mile joint haul, the rate thus made is higher than the cost, but that beyond 140 miles the rate thus produced is less than costs. The excess up to a 140 mile haul, however, will offset the amount it falls below on the remaining combinations.

These tables do not profess to carry the computation out to its limit, the purpose of them being merely to illustrate the operation of the different suggestions made for reaching an equitable basis for joint rates. They make clear that no arbitrary which can be used will work out with exact equity with all the combinations. It is the opinion of the Commission, however, that a ¾-ct. arbitrary will come nearer to working out equitably for both shipper and carrier than any other feasible proposition.

IT IS THEREFORE ORDERED, That the respondent carriers establish joint rates on pulp wood in carloads by adding to the present single-line-distance rates an arbitrary of ¾ of a cent per cwt. for each transfer from one road to another.

CAZENOVIA AND SAUK CITY RAILROAD COMPANY
vs.
CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted June 20, 1913. Decided Feb. 11, 1914.

The petitioner asks for a reapportionment of the joint rates in effect between it and the respondent, as provided by the order in *Bowar et al. v. C. & S. C. R. Co. et al.* 1911, 6 W. R. C. R. 693, on the ground that the division of rates prescribed is confiscatory of its property. The petitioner, under this division, was to receive a mileage pro rata, with a minimum of 25 per cent, but not more than 25 per cent of the current rates to and from Milwaukee nor more than the local rate to or from the junction with the respondent's line. Since the filing of the petition and the hearing in the case the petitioner has passed into the hands of a receiver and its property has been purchased by new owners.

The theory upon which the Commission orders the establishment of joint rates and makes a division of charges is that the smaller road is entitled to a somewhat larger proportion of the revenues than it would otherwise receive because it has developed the business for the larger road. Just how large a proportion the petitioner in the instant case should receive it is difficult to say without an exhaustive investigation of costs and conditions.

Held: Inasmuch, however, as the successors of the petitioner have given no notice of their intention to become a party to the present complaint the petition must be dismissed, but the matter may be taken up again at the instance of either party.

This action was brought before the Commission on May 6, 1913, by petition of J. E. Hanzlik, general manager of the Cazenovia & Sauk City Railroad Company, asking for a reapportionment of the joint rates existing between that company and and the Chicago & North Western Railway Company. The Commission, on petition of certain shippers and with the concurrence of the Cazenovia & Sauk City Railroad Company, on June 13, 1911, ordered the establishment of joint rates between the Chicago & North Western Railway Company and the Cazenovia & Sauk City Railroad Company. (*Bowar et al. v. C. & S. C. R. Co. et al.* 6 W. R. C. R. 693). The division of these rates which the Commission approved is the same as that existing between the Hillsboro & Northeastern Railway Company and the

Chicago & North Western Railway Company, namely, that the proportion to the Cazenovia & Sauk City Railroad Company shall be on a "mileage pro rata, minimum 25 per cent to the short line: C. & S. C. to receive not more than 25 per cent of current rates to and from Milwaukee with maximum of local rate to or from junction with the C. & N. W." Alleging that this division is confiscatory of the property of the Cazenovia & Sauk City Railroad Company, Mr. Hanzlik asks a reapportionment of the charges which will allow his road better returns.

On June 20, 1913, a hearing on the matter was held in the office of the Commission at Madison, *M. B. Olbrich,* of Madison, appearing for the petitioner and *C. C. Wright* and *H. C. Cheyney* for the respondent. The contention of the petitioner at this hearing was that the petitioner suffered through the fact that its revenues could not be more than 25 per cent of the through charge to or from Milwaukee, even should the shipment travel considerably farther.

It has been the practice of the larger carriers in making divisions of joint rates with smaller roads to make the proportion of the charges to the short line on the plan outlined above. It simply means that should a shipment be destined to a point farther from the originating point than a designated gateway, in this case Milwaukee, or to a point taking a rate higher than the rate to the gateway, the smaller road would receive but the agreed percentage of the joint rate to the gateway and not more than its local rate to the junction. This necessitates, of course, in the case of all cars or shipments destined to points farther from the junction than the gateway or to points to which the joint rate is higher than to this gateway, the computation of what would have been the total revenue should the car or shipment have been destined to or from the gateway and the apportionment to the smaller road of its proportion of the gateway charges.

It is obvious that should the larger road fail to fix a gateway (the percentage accuring to the short line remaining the same), the revenue to the short line might be unreasonably high in the case of a shipment to a great distance. In fact, instances might be cited where the revenue to the larger road would not cover the cost of the handling. It is probable, however, that in the case of intrastate shipments alone it would make very little difference should no maximum be established. On out intrastate

shipments in this particular case the revenue accruing to the petitioner for the calendar year 1912, had there been no maximum, would have been $749.54 as against actual revenue of $694.53, making a difference of $55.01 for the year. On the total out business, intrastate and interstate, the additional revenue to the petitioner would have been $545.68.

That the sum of the local rates is often prohibitive is conceded. It is also true that a through joint rate is frequently necessary to develop the territory which the shorter line reaches. That the local rates of the two carriers are in and of themselves reasonable does not make the sum of the two rates reasonable for the through business, and each carrier must yield some of its revenue in order to obtain this business. Whatever additional business the carrier having the long haul may obtain as a result of the construction of the smaller line comes wholly unsolicited, and no overhead expenses, such as advertising and traffic soliciting, etc., can be charged against it. It is also handled for a smaller terminal charge.

It is true that in many cases the short line has an insufficient number of cars to handle the business it creates and the larger line must supply the cars; but in most instances the number of cars required is negligible as compared with the number which the larger road owns and seldom, if ever, does the demand of the smaller road cause a car shortage on the larger. Moreover, the expenses per mile to the road having the longer haul are considerably less than those of the short line. It is a safe assumption that in voluntarily making joint rates each road sees to it that its proportion more than covers its cost. The larger road, however, because of its extent and its relation to the short line, can so dictate the terms of the division that the short line will not receive enough revenue to cover its expenses.

The theory upon which this Commission has ordered the establishment of joint rates and made a division of charges is that the smaller road is entitled to a somewhat larger proportion of the revenues than it would otherwise receive, because it has created the business for the larger road. That the larger carriers have recognized this principle is evident from the fact that before the Commission was empowered to establish joint rates, joint tariffs were effective between large and small roads. Just what should accrue to the smaller road in this particular instance, for example, is difficult to say for it would be practically

impossible to ascertain how much of the business now done by the Chicago & North Western Railway Company and handled to La Valle by the Cazenovia & Sauk City Railroad Company would have been done by the former company had not the line of the latter company been built; nor can we compute at all accurately to what extent the Cazenovia & Sauk City Railroad Company has developed business that would never have existed otherwise.

The last provision of the paragraph in the division sheet showing the proportion accruing to the short line, viz.: "C. & S. C. to receive not more than 25 per cent of current rates to and from Milwaukee with maximum of local rate to or from junction with the C. & N. W." is not wholly in accord with the theory established by the Commission. This provision means that the 25 per cent of the through rate to Milwaukee must not exceed the local rate from the originating point to the junction with the larger road; if it should, the short line can receive but its local charges on the shipment. The question naturally arises —is not the short line entitled to more than the amount of its local charge to the junction for originating the business? An answer to this question would involve an exhaustive study of the cost to each carrier and an exhaustive investigation of conditions.

At best, the present method of computing the revenue accruing to each line is an involved process and is open to much criticism. It would seem that a simpler and fully as fair a method would be one that would apportion the joint revenue to each road on the basis of each line's percentage of the through rate had that rate been the sum of the local rates to and from the junction.

An analysis of the Chicago & North Western Railway Company's accounting department's division statements which apportion the revenue to the Cazenovia & Sauk City Railroad Company develops the fact that the mileage prorate clause of the division sheets has been wholly disregarded. There are several instances where the revenue to the Cazenovia & Sauk City Railroad Company has been computed at 25 per cent of the through charges when it should have been considerably greater because the mileage on the Cazenovia & Sauk City railroad was more than 25 per cent of the total mileage.

Since the filing of this petition and since the hearing on June 20, 1913, the Cazenovia & Sauk City Railroad passed into the hands of a receiver, was improved under his direction and was then purchased by other parties. The new owners have given no notice of their intention to become a party to the complaint. In view of this fact the case will be dismissed without prejudice and may be again taken up whenever either party to it so desires.

IT IS THEREFORE ORDERED, That this case be and that it hereby is dismissed.

HERMAN RUECKERT ET AL.
vs.
CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Submitted July 22, 1913. Decided Feb. 11, 1914.

The petitioners, residents of the city of Portage, Columbia county, allege that the highway crossing on the respondent's line at Cass st. in the city named is dangerous and ask that the respondent be required to construct a viaduct or subway at the crossing.

Held: Inasmuch as sec. 1797—12*e* of the statutes requires a petition for a separation of grades to be lodged by the common council of a city, the village board of a village, the town board of a town or by a railway company, the Commission has no jurisdiction in the matter as at present brought before it. The petition is dismissed.

The petition, which is signed by 144 residents of Portage in Columbia county, alleges in substance that the highway crossing on the line of the Chicago, Milwaukee & St. Paul Railway Company at Cass street in that city is dangerous to public travel, and asks that the respondent be required to construct a proper viaduct or subway at this crossing.

No formal answer was filed by the respondent.

A hearing was held at Portage on July 22, 1913. *W. O. Kelm* appeared for the petitioner and *J. N. Davis* for the respondent.

Counsel for the respondent objected at the hearing that, inasmuch as the complaint was not filed by the municipality, the Commission has no jurisdiction in the matter.

This position is correct, for sec. 1797–12*e* of the statutes provides that a petition for a separation of grades must be lodged with the Commission by the common council of a city, the village board of a village, the town board of any town, or by a railway company. Upon a petition brought under this section the Commission is directed to apportion the cost of any alteration ordered, between the railway company and the municipality in interest.

No officials of the city of Portage testified at the hearing. The city attorney, however, appeared on behalf of the petitioners. He stated unofficially that the city would take the position that

it should not be required to assume any part of the expense of any viaduct or change of grade which might be ordered.

Subsequent to the hearing the railway company provided an additional flagman at Cass street. If this protection is regarded as insufficient by the city council, that body can bring the matter of grade separation before the Commission by petition as provided in the section of the statutes referred to above.

IT IS THEREFORE ORDERED, That the petition herein be and the same is hereby dismissed.

NORTHWESTERN MANUFACTURING COMPANY ET AL.

VS.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY,
CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY,
MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY,
CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY COMPANY,
ILLINOIS CENTRAL RAILROAD COMPANY,
CHICAGO, BURLINGTON AND QUINCY RAILROAD COMPANY,
GREEN BAY AND WESTERN RAILROAD COMPANY,
NORTHERN PACIFIC RAILWAY COMPANY,
DULUTH, SOUTH SHORE AND ATLANTIC RAILWAY COMPANY,
WISCONSIN AND MICHIGAN RAILWAY COMPANY,
WISCONSIN AND NORTHERN RAILROAD COMPANY,
MARINETTE, TOMAHAWK AND WESTERN RAILWAY COMPANY,
MINERAL POINT AND NORTHERN RAILWAY COMPANY,
STANLEY, MERRILL AND PHILLIPS RAILWAY COMPANY,
FAIRCHILD AND NORTHEASTERN RAILWAY COMPANY,
LA CROSSE AND SOUTHEASTERN RAILWAY COMPANY,
KEWAUNEE, GREEN BAY AND WESTERN RAILWAY COMPANY,
IOLA AND NORTHERN RAILROAD COMPANY,
WAUPACA-GREEN BAY RAILWAY COMPANY.

Decided Feb. 11, 1914.

The petitioners allege that the classification by the respondents of farm wagons (complete), farm trucks, gas engine trucks and extra wagon boxes and parts as first class is unjust and unreasonable. Prior to Feb. 14, 1913, farm wagons, knocked down, in less than carload lots, were rated as first class and farm trucks, knocked down, in less than carload lots, were rated as third class. On the date named western classification No. 51 went into effect raising farm trucks to first class, thus rating them and farm wagons alike. This classification was subsequently replaced by western classification No. 52, but the latter does not differ materially from the former as to the points here at issue. Both the petitioners and the respondents are agreed that a uniform rating upon farm trucks and farm wagons is desirable in order to avoid confusion, but the petitioners contend that the two commodities should be rated as second class instead of first class, on the ground that the raising of farm trucks from third class to first class will unreasonably increase the price of farm trucks to the retail purchaser.

Held: The classification of farm trucks as first class is not justifiable. The classification of both farm trucks and farm wagons as second class, however, is reasonable. The respondents are therefore ordered to discontinue the first class rating on farm wagons, farm trucks, logging trucks, and gasoline engine trucks, knocked down, and on parts thereof, including wagon boxes, knocked down, and to substitute therefor the second class rating.

This case came before the Commission in the form of a petition signed by the Northwestern Manufacturing Company and ten other manufacturers of and dealers in vehicles and farm implements, alleging that the classification of and rates charged upon farm wagons (complete), farm trucks, gas engine trucks and extra wagon boxes and parts, by the Chicago & North Western Railway Company and eighteen other companies engaged as carriers between points within the state of Wisconsin are unjust, unreasonable and excessive.

Specifically the complaint is against western classification No. 51, which was issued and went into effect in Wisconsin upon the lines named on February 14, 1913, and which eliminates the distinction hitherto made between farm wagons and farm trucks. Prior to the going into effect of said western classification No. 51, farm wagons, knocked down, in less than carload lots were rated as first class, and farm trucks, knocked down, in less than carload lots were rated as third class. Classification No. 51 raised farm trucks to first class, thus rating them and farm wagons alike.

A hearing was held on July 17, 1913, in the city hall in Milwaukee. There were present representing all the petitioners *A. G. Holines,* secretary of the Northwestern Manufacturing Company; and in addition several representatives of individual petitioners appeared. The respondents were represented by *R. H. Widdicombe,* general attorney, and *C. C. Wright,* general solicitor, Chicago & North Western Railway Company; *J. N. Davis,* assistant general solicitor, Chicago, Milwaukee & St. Paul Railway Company; *A. H. Bright,* general counsel, and *K. Taylor,* attorney, Minneapolis, St. Paul & Sault Ste. Marie Railway Company; *H. C. Cheyney* and *J. M. Davis,* assistant general freight agents, Chicago & North Western Railway Company and Chicago, Milwaukee & St. Paul Railway Company, respectively.

Mr. Widdicombe asked a continuance of the hearing on the ground that chairman Fyfe of the western classification committee, who was to appear for the respondents, could not be present. It was decided to proceed, however, and to give those present an opportunity to be heard. After several representatives of the petitioners had been heard and had been cross-examined by the representatives of the respondents, an adjournment was taken until September 18, 1913, at which time the hearing was concluded in the assembly chamber at Madison. At

this hearing, Mr. Fyfe being again unable to be present, counsel for respondents asked that he be allowed to file a statement. Permission was given with the understanding that a copy of his statement be furnished to the petitioners, and the latter be given an opportunity to reply. Mr. Fyfe's statement was duly filed on September 26, 1913, and the petitioners were furnished a copy.

After the case had been presented to the Commission the western classification committee withdrew classification No. 51 and substituted therefor classification No. 52. The latter does not differ materially as to the points in issue in this case from the one for which it was substituted. The classifications and ratings in issue are as follows in classification No. 52:

Wagons

Common or farm, wood or iron with or without boxes, boxes set up, other parts knocked down ..... One and one-half first class
Same knocked down in pieces, actual weight..... First class

Farm Trucks

Knocked down ..... First class

Logging Trucks

Trucks and wagons knocked down..... First class

Gasoline Trucks

Trucks, gasoline engine, knocked down in packages or loose First class

Wagon Boxes

Wagon beds (ordinary farm or express wagon bodies) set up ..... Double First class
Same knocked down in bundles..... First class

The contention of the petitioners is in substance that uniformity of rating as between farm wagons and farm trucks is desirable; that much confusion has grown out of certain distinctions made in classification No. 50 between different grades and kinds of farm trucks; that, from a transportation point of view, there is no real difference between trucks and wagons; and that it was arbitrary and unreasonable to raise farm trucks from third class rating to first class. One dealer testified that the change meant an advance in the price of trucks to the farmers varying $1.20 to $3.00 according to size. This advance would fall on the farmers because the margin is so small the dealers could not absorb it. Figured on the unit system employed by the western classification committee, this petitioner

alleged that neither trucks nor wagons should be rated higher than second class. The petitioners, though holding that third class is a sufficiently high rating for farm trucks, knocked down, in less than carload lots, would not object to their being raised to second class, if farm wagons were lowered to second class to bring uniformity and avoid the confusion which grew out of the former classification.

The contention of the respondent companies as presented by representations of the companies and by Mr. Fyfe, chairman of the western classification committee, is in substance that the first class rating on farm wagons as presented, and which has been in force in this territory since 1887, is reasonable and just; that such rating is applicable on 80 per cent of the railroad mileage of the United States; that the third class rating on trucks was made as a sort of emergency measure to provide for a cheap truck manufactured at Quincy, Ill.; that under the former classification it was found that shippers were dividing their shipments so as to take advantage of the truck rates for parts of their wagon shipments; that uniformity of rating between wagons and trucks is desirable, and that to lower the rating of farm wagons, as petitioners asked, would discriminate against interstate traffic.

CONCLUSIONS.

It appears from the facts as presented at the hearings and in matter subsequently filed with the Commission that the chief purpose of the classification committee in changing the rating upon farm trucks was to secure uniformity in rating between farm wagons and farm trucks. It was testified by both sides that the former classification No. 50, in which farm wagons in less than carload lots, knocked down, were rated first class, and farm trucks similarly shipped were rated third class, opened the way for a great deal of confusion and unjust classification which proved troublesome to the shippers as well as the carriers. Both sides are agreed as to the desirability of a uniform rating upon the two commodities that will eliminate the annoying distinctions made between different kinds of trucks as well as the fiction that farm wagons and trucks are changed essentially in character when they pass from the manufacturer or dealer to the carrier. But while the purpose of the change is to be com-

mended, the same cannot be said as to the manner in which it was effected by the classification committee.

There is a wide difference between the selling price of farm wagons and farm trucks, trucks ranging from $23 to $35 and wagons being about $20 higher. The undisputed testimony of the petitioners goes to show that in the territory affected from two or three times as many trucks as wagons are sold. One petitioner testified, and this was not disputed, that the raising of the trucks rating to first class was substantially a 50 per cent advance in cost of shipment in his territory, and added from $1.20 to $3.00 to the cost to the buyer of a truck. It will hardly be claimed, we think, that however desirable uniformity of rating may be, it will justify so considerable an increase in the ultimate cost of the commodity shipped.

The petitioners have expressed themselves as generally willing to concede in the interest of uniformity an advance in the classification of farm trucks from third class to second class, providing that the rating on farm wagons is reduced to second class.

It appears to the Commission that the proposition of the petitioners offers an equitable settlement of the points at dispute in that it will work no injustice to the respondent companies, while it will bring the desired uniformity in classification without unreasonably raising the cost to the consumer of the cheaper and more generally used commodity.

It is suggested by the Commission that, to avoid further confusion, the following descriptions of the principal articles involved be used in publishing the ratings in compliance with the order which follows:

"Farm wagons (not including spring wagons, platform wagons or drays) K. D. completely; box K. D. flat

"Farm trucks and farm wagon gears completely K. D.

"Gas engine trucks completely K. D."

It is Therefore Ordered, That the respondent carriers cease and desist from applying the first class rating on farm wagons, farm trucks, logging trucks and gasoline engine trucks, knocked down, and to parts thereof, including wagon boxes knocked down, and substitute therefor the second class rating.

WISCONSIN CLAY MANUFACTURERS ASSOCIATION

vs.

CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY,
CHICAGO AND NORTH WESTERN RAILWAY COMPANY,
CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY COMPANY,
MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY,
GREEN BAY AND WESTERN RAILROAD COMPANY,
NORTHERN PACIFIC RAILWAY COMPANY,
CHICAGO, BURLINGTON AND QUINCY RAILROAD COMPANY,
ILLINOIS CENTRAL RAILROAD COMPANY.

Submitted May 27, 1913. Decided Feb. 11, 1914.

The petitioner alleges that the rates exacted by the respondents for the transportation of tile and of tile and brick in mixed carloads are excessive, unreasonable and unjust, and asks that rates be fixed for tile and for tile and brick in mixed carloads and that joint rates be determined for their transportation over two or more lines. Data introduced by the petitioner and the respondents relating to rates on tile in states adjacent to or near Wisconsin and to the cost of moving tile in Wisconsin are considered. An independent investigation of brick and tile rates in general and the cost of handling the traffic was also made.

Held: The rates on drain tile and on mixed carloads of tile and brick should be revised and joint rates should be granted for the transportation of tile and of brick and tile in mixed carloads. The respondents are therefore ordered: (1) to put into effect a schedule of rates fixed by the Commission for the transportation of drain tile in carloads, subject to a minimum weight of 36,000 lb.; (2) to apply on mixed carloads of tile and brick either the rate and minimum on brick or the rate and minimum on tile in such a manner as to produce the greatest charge; and (3) to establish and maintain joint rates on tile and on brick and tile not exceeding the local rate for any distance by more than 1¼ ct. per cwt.

The petition in this case, filed April 3, 1913, alleges that the rates on tile and brick in mixed carloads are excessive, unreasonable and unjust to the manufacturers of tile and to the public. In support of this contention the petitioner alleges further that the rates on tile in Iowa, Illinois, Michigan, Minnesota and Indiana average 50 per cent lower than distance rates in Wisconsin, at least insofar as short hauls are concerned; that in these adjoining states rates on tile are the same as rates on brick,

whereas in Wisconsin rates on tile are about 50 per cent higher than rates on brick; that in Wisconsin shipments of tile and brick in mixed carloads are charged separately, thus making charges on mixed shipment double those on a one-class shipment; that there are in Wisconsin no joint rates on tile or on brick and tile in mixed carloads. It is further alleged that the proper development of the tile industry and the interests of the public require that certain changes be made in the rates and regulations against which the above complaint is made. The petitioner therefore prays: (1) that rates on tile be fixed in 5 mile distances up to and including 300 miles at not to exceed 10 per cent more than the rates on brick; (2) that rates on tile and brick in mixed carloads be fixed in 5 mile distances up to and including 300 miles, such rates to be the same, pro rata, as the rates on tile and brick in straight carloads; and (3) that joint rates over two or more lines on tile and on tile and brick in mixed carloads be fixed at not to exceed 1 ct. per 100 lb. higher than single line rates.

Separate answers to the petition were filed by each of the respondents except the Chicago, Burlington & Quincy and the Green Bay & Western railroad companies. The separate answers filed are, in effect, essentially the same. They deny that the rates complained of are unreasonable, excessive or unjust to the manufacturers of tile, or to the public, or that the tile industry is jeopardized by reason of these rates, and allege that the rates complained of are reasonable and just and that the rates proposed in the petition would not be fair to the carriers.

Hearing was held May 27, 1913, in the city hall, Milwaukee. The petitioner was represented by *Samuel Weidman*, secretary; for the respondents *R. H. Widdicombe*, *H. C. Cheney* and *A. F. Cleveland* represented the Chicago & North Western Railway Company; *J. N. Davis*, the Chicago, Milwaukee & St. Paul Railway Company; *W. D. Burr*, the Chicago, St. Paul, Minneapolis & Omaha Railway Company; *Kenneth Taylor*, the Minneapolis St. Paul & Sault Ste. Marie Railway Company; and *J. A. Cherry*, the Illinois Central Railroad Company. The Green Bay & Western Railroad Company, the Northern Pacific Railway Company and the Chicago, Burlington & Quincy Railroad Company were not represented.

The secretary for the petitioning company offered in evidence certain statements that were presented in behalf of the petition-

ers in *Ringle et al. v. C. M. & St. P. R. Co. et al.,* decided by the Commission July 10, 1911, 7 W. R. C. R. 170. These statements were intended to show the prevailing state and interstate rates on brick, tile, etc. in Wisconsin and bordering states. He introduced also a number of other statements that purported to show prevailing rates on brick and tile between various points and stated that in 1912 in Wisconsin eighteen tile plants reported the manufacture and sale of brick and drain tile; that at four of these plants tile is the principal product and that at the other fourteen plants brick is the principal product; that the value of the tile manufactured at these plants would range from $5,000 to $10,000 annually; that there was no doubt that brick and tile were made at the same plant and often shipped in mixed carloads; and that it was assumed that the minimum weight on tile would be fixed at 30,000 lb., the prevailing minimum. Another witness for the petitioner stated that the value of common brick averaged about $8.00 per 1,000 and that these would weigh about 4,000 lb.; that brick can be loaded to capacity of cars and drain tile to 35,000 to 40,000 lb., and that there are few claims for breakage on tile.

It was alleged by representatives of the respondents that material changes had been made in brick and tile rates within the past two years and objection was made to the introduction by the petitioner of statements, based on exhibits in the brick case referred to above, unless the statements were verified by the Commission. J. H. Cherry, assistant general freight agent of the Illinois Central Railroad Company, testified that class E rates apply on drain tile in Wisconsin and that these rates were not very materially different from rates on drain tile in Iowa, Illinois and Indiana. He filed a statement of such rates for distances up to one hundred miles, called attention to a few comparisons and stated that a large amount of drain tile moves in Illinois on a basis of the distance tariff. Further testimony by this witness was, in substance, about as follows:

A bulletin published by the United States Geological Survey in 1909 gave the value of drain tile manufactured in Illinois at $1,421,878, Wisconsin $74,702, Iowa $2,509,505, and as to the manufacture of clay products generally in all the states placed Illinois third, Iowa ninth, Wisconsin twenty-fourth. From Indiana to Illinois rates are lower than west of the Illinois-Indiana line. At a recent informal conference between shippers

and railroads in Central Freight Association territory, held at Washington, D. C., before Commissioner Clements, a rate of 70 per cent of the sixth class rate was agreed upon. This would be very materially higher than brick rates. The rate on brick, Danville, Ill., to Chicago, Ill., 128 miles, is 85 cts. per ton and on drain tile 6.75 cts. per 100 lb., the tile rate being 159 per cent of the brick rate. This percentage applied to the existing rate on brick in Wisconsin for the same distance would result in a rate of 7.71 cts. on tile, while the rate under the Wisconsin distance tariff is 7 cts. Statistics of the Illinois Central Railroad Company show that on sewer pipe and drain tile the damage claims paid equal about 10 per cent of the revenue on this traffic. Separate statistics as to drain tile and sewer pipe could not be given. Data on about 2,500 cars of drain tile showed that the average load was 37,000 lb. per car.

A statement introduced by witness for the Chicago & North Western Railway Company shows that in the month of September, 1912, this line handled from stations in Illinois, Iowa and Wisconsin 1,209 cars of brick, the average weight of which was 33.2 tons per car; 131 cars of tile, the average weight of which was 18 tons per car; and 558 cars of drain tile, the average weight of which was 17.4 tons per car. This statement shows further that for a period of two years, in which 34,436 cars of brick were handled, the average load was 32 tons; that the loss and damage on tile and sewer pipe on a year's movement was 23.5 times the loss and damage on brick for the same period, whereas the tonnage of brick was but 6.9 times the tonnage of tile, drain tile, and sewer pipe; that investigation shows that tile cannot be loaded in excess of the minimum and that the heavier the loading the greater the per cent of breakage, whereas brick can be loaded to capacity of car. Another statement introduced by this witness is given in full herewith:

STATEMENT SHOWING AVERAGE LOADING OF BRICK, TILE AND SEWER PIPE FOR THE CALENDAR YEAR 1912.

C. & N. W. Ry. Co.

	Originating in Wisconsin.				Entire line.	
	Intrastate.		Interstate.			
	No. Cars.	Average load.	No. cars.	Average load.	No. cars.	Average load.
Brick	1,424	32.0	353	31.9	17,944	31.9
Tile	64	24.8	11	19.0	964	18.6
Sewer pipe	16	14.5	18	16.1	263	16.1
Drain tile	121	22.1	11	20 8	2,181	18.2

Another witness for this company introduced a statement of brick and tile shipments from Jefferson, Wis. This statement shows that during a certain period in which 150 cars of brick moved there were 6 cars of tile, the average weight of the brick being 71,604 lb. and of the tile 37,741 lb. per car.

Petitioner's exhibit "I" is a copy of the printed decision of this Commission in *Ringle et al. v. C. M. & St. P. R. et al.* before referred to, in which case the matter of rates on brick and tile was quite fully gone into. From an examination of the evidence introduced in the present case and of rate schedules now on file with the Commission, some of which are in force and some of which are under suspension by the interstate commerce commission and by certain state commissions, it appears that the general brick and tile rate situation is essentially the same at present as it was when the case referred to came up. Briefly stated, this situation is about as follows: In Wisconsin the rates on brick now in effect were established by the Commission in the rehearing in the case of *Ringle et al. v. C. M. & St. P. R. Co. et al.* decided Aug. 15, 1911, (7 W. R. C. R. 598). The rates on drain tile are the class E rates of the Wisconsin distance tariff with some unimportant general and some specific exceptions which are shown in petitioner's exhibit "I". The rates for Minnesota, Iowa and Illinois, intrastate, and Illinois, Indiana and Southern Michigan, intrastate and interstate, are shown generally in petitioner's exhibit "I". Tariffs showing general advances of about 5 per cent in rates throughout the last named territory are under suspension by the interstate commerce commission and by state commissions.

Taking the territory described above as a whole, there appears to be no uniformity in the relation between the rates on brick and the rates on tile. Many instances may be found where the rates are the same on each commodity; many others where the rates on tile vary from a quarter of a cent to one and one-half cents higher than the rates on brick and there are some instances where rates on tile are lower than rates on brick. This Commission, of course, cannot pass upon the reasonableness of rates over which it has no jurisdiction but a consideration of such rates is valuable for purposes of comparison.

A schedule of distance rates on drain tile, subject to a minimum weight of 36,000 lb. per car, has been worked out by the Commission. In making up this schedule all testimony presented in the present case, and in the cases referred to wherein the rates on brick and tile were involved, has been given due consideration and in addition thereto the Commission has made an independent investigation of brick and drain tile rates in general and of the cost of handling the traffic. The rates shown in this schedule which appears below, are believed to be reasonable and fair to all concerned.

Local and Joint Rates in Cents per 100 lb. on Drain Tile, Carloads, Subject to a Minimum Weight of 36,000 lb. per Car.

Miles.	Cents per 100 lb.	Miles.	Cents per 100 lb.	Miles.	Cents per 100 lb.
10	2.50	75	4.45	180	7.60
15	2.65	80	4.60	190	7.90
20	2.80	85	4.75	200	8.20
25	2.95	90	4.90	210	8.40
30	3.10	95	5.05	220	8.60
35	3.25	100	5.20	230	8.80
40	3.40	110	5.50	240	9.00
45	3.55	120	5.80	250	9.20
50	3.70	130	6.10	260	9.40
55	3.85	140	6.40	270	9.60
60	4.00	150	6.70	280	9.80
65	4.15	160	7.00	290	10.00
70	4.30	170	7.30	300	10.20

The prayer for joint rates on tile and on brick and tile in mixed carloads is reasonable and it is found that a rate thereon of 1¼ cts. per 100 lb. will amply cover the excess cost to the carriers arising out of the transfer at junction points.

IT IS THEREFORE ORDERED, That the respondents, the Chicago & North Western Railway Company, the Chicago, Milwaukee & St. Paul Railway Company, the Chicago, St. Paul, Minneapolis

& Omaha Railway Company, the Minneapolis, St. Paul & Sault St. Marie Railway Company, the Illinois Central Railroad Company, the Green Bay & Western Railroad Company, the Northern Pacific Railway Company and the Chicago, Burlington & Quincy Railroad Company, cease and desist from charging the rates this day in effect on drain tile and substitute therefor the rates as given in the above schedule.

IT IS FURTHER ORDERED, That the above named respondents apply on mixed carloads of tile and brick either the rate and minimum on brick or the rate and minimum on tile in such a manner as to produce the greatest charge.

IT IS FURTHER ORDERED, That the above named respondents establish and maintain joint rates on tile and on brick and tile not to exceed the local rate for any distance by more than 1¼ cts. per 100 lb.

ARENA AND RIDGEWAY TELEPHONE COMPANY
vs.
TROY AND HONEY CREEK TELEPHONE COMPANY,
DODGEVILLE AND WYOMING TELEPHONE COMPANY,
WEST SPRING LINE,
BIG HOLLOW TELEPHONE COMPANY.

Submitted Sept. 30, 1913. Decided Feb. 14, 1914.

This proceeding arises out of a controversy between the petitioner and the respondents with respect to the payment to be made to the respondents for switching service rendered for a certain rural line owned and operated by the petitioner. The petitioner has a system of exchanges and switches in the territory south and east of Spring Green which it has connected with the exchange maintained jointly by the respondents at Spring Green by the rural line mentioned and by a trunk line. The respondents have assessed the petitioner the sum of $75 per year for the switching service rendered for the rural line, but the petitioner has refused to pay this sum on the ground that it is offset by the sum which the respondents should pay toward the upkeep of the trunk line which the petitioner has maintained and operated wholly at its own expense. The respondents allege that the service over the trunk line is of no particular value to their subscribers and contend that they are entitled to a fair switching charge for each telephone connected to the petitioner's rural line. An approximate valuation of the lines in question was made, a peg count of all calls through the Spring Green exchange was taken and the operating expenses of this exchange were determined as closely as possible.

Held: (1) The respondents should share in the expense of maintaining and operating the trunk line between the Spring Green exchange and the petitioner's system; (2) a charge of $1 per telephone is equitable for the service rendered the petitioner by the respondents in switching for the petitioner's rural line at the Spring Green exchange.

It is ordered: (1) that the respondents pay to the petitioner the sum of $27 per year for the use of the trunk line connecting the "Spring Green" and the "Fernan" exchanges; and (2) that the petitioner pay to the respondents each year the sum of $1 per telephone for switching service for such telephones as are connected to the petitioner's rural lines which enter the respondents' Spring Green exchange.

It is recommended that the petitioner construct an extra line connecting with the Spring Green exchange for the purpose of relieving the congestion on its existing rural line.

Complaint in the above matter was filed with the Commission on July 3, 1913, and a formal hearing was held at the office of the Commission at Madison on September 30, 1913. *Wm. Fernan, John McCutchin* and *John E. Johnson* appeared for the petitioner and *E. G. Hood* and *C. D. Johnson* for the respondents.

From the testimony at the hearing and through subsequent investigation made by a member of the Commission's staff the following facts bearing upon the situation have been brought out.

The petitioner operates seven small exchanges and switches in the territory south and east of Spring Green and serves about two hundred subscribers. One of the exchanges is installed at Arena, one at Hyde and the other five are in conveniently located farm houses. All of the seven exchanges are connected by a grounded trunk line over which any exchange may call any other exchange as it chooses.

The four telephone companies named as respondents in this case operate jointly an exchange at Spring Green and together serve directly about three hundred subscribers in the village and surrounding rural territory, of which number about 275 may be considered as paying their yearly rental directly for the support of this exchange. Connecting the Spring Green exchange with the petitioner's "Fernan" exchange is a through line owned and operated by the petitioner. Also terminating in the Spring Green exchange is a loaded rural line which is the property of the petitioner. This line has twenty-seven phones connected to it.

The question at issue in this case involves the refusal on the part of the petitioner to pay the sum of $75 per year to the respondents for switching service for the above mentioned rural line. The petitioner owns and maintains the entire line connecting its exchange with the respondent's exchange and contends that one-half of the upkeep of this trunk line should properly be borne by the respondents and further contends that this amount about offsets the amount due the respondents for switching service for the above mentioned rural line. On the other hand, the respondents state that the service over the through line connecting the two exchanges is of no particular value to their subscribers and contend that they are entitled to a fair switching charge per telephone per year from the telephones located on the above mentioned petitioner's rural line.

There are to be determined therefore:

1. The relative amount of use which each company makes of the trunk line and, using this as a basis, what each company's share of the upkeep of this line should be.

2. A proper switching charge per telephone to be paid the

respondents by the petitioner for telephones located on the petitioner's rural line entering the Spring Green exchange.

In order to make these determinations an approximate appraisal of the lines in question was made, a peg count of all calls through the Spring Green exchange was taken, and the operating expenses of the respondents' exchange at Spring Green were determined as closely as possible.

PHYSICAL VALUE OF PROPERTY.

ESTIMATE OF APPORTIONED VALUE OF PETITIONER'S TRUNK LINE BETWEEN SPRING GREEN AND FERNAN AS OF DEC. 1, 1913.

	Unit.	Quantity.	Unit price.	Cost of reproduction.	Cond. per cent.	Present value.
20"5' cedar poles	ea.	60	$1 30	$78	.....	.....
3 pin X arms	ea.	60	46	28	.....	.....
Anchors	ea.	16	2 50	40	.....	.....
No. 12 iron wire	mi.	8.8	11 36	100	77	$189
Total	.....	.....	.....	$246	.....	$189

For about five miles south from Spring Green to a fork of the road in section 6, town of Wyoming, the above line is considered as running on foreign poles and cross-arms and no allowance is made for this construction. However, the value of the contacts on these foreign poles has been computed and from this value a proper allowance for interest, depreciation, operation and maintenance, per contact, has been arrived at for this line. This figure is placed at $0.04 per contact and will appear as part of the expenses properly chargeable to these lines.

TRAFFIC STUDY.

TABLE I.

TABLE OF LOADING FACTORS FOR TRAFFIC STUDY AT SPRING GREEN.

Classes of service. (To these classes.)	Classes of service. (From these classes.)								
	1	2	3	4	5	6	8	8	d
1	1.0	1.2	1.2	1.2	1.0	1.2	1.2	2.0	2.0
2	1.2	1.3	1.3	1.3	1.2	1.3	1.3	2.2	2.0
3	1.3	1.4	1.4	1.4	1.3	1.4	1.4	2.3	2.0
4	1.3	1.4	1.4	1.4	1.3	1.4	1.4	2.3	2.0
5	1.0	1.1	1.1	1.1	1.0	1.1	1.1	2.1	2.0
6	1.2	1.3	1.3	1.3	1.2	1.3	1.3	2.2	2.0
7	1.3	1.4	1.4	1.4	1.3	1.4	1.4	2.3	2.0
8	2.0	2.2	2.2	2.2	2.0	2.2	2.2	.....	4.0
a	.8	.8	.8	.8	.8	.8	.8	.8	.....
b	.2	.2	.2	.2	.2	.2	.2	.2	.....
d	2.0	2.0	2.0	2.0	2.0	2.0	2.0	4.0	.....

TABLE

TRAFFIC STUDY--

TABLE SHOWING DIVISION OF OPERATORS'

T—Total calls
A—Part of total calls chargeable
B—Part of total calls chargeable

Classes of service (to these classes.)		Classes of service 1		2		3		4		5	
		T	A	T	A	T	A	T	A	T	A
1	T	69	41.4	22	15.8	8	5.8	52	37.5	19	11.4
	B		27.6		10.6		3.8		25.0		7.6
1a	T	1	.6	1	.6	1	.6	3	1.8	..	..
	B		.2		.2		.2		.6		..
2	T	18	13.0	2	1.5	1	.8	32	25.8	..	..
	B		8.6		1.1		.5		17.2		..
2a	T	7	4.2	..	..	..	..	9	5.4	..	..
	B		1.4		..		..		1.8		..
3	T	10	7.8	7	5.9	1	.8	21	17.6	1	.8
	B		5.2		3.9		.6		11.8		.5
3a	T	1	.6	1	.6	..	..	2	1.2	..	..
	B		.2		.2		..		.4		..
4	T	45	35.1	17	14.3	6	5.0	43	36.2	16	12.5
	B		22.4		9.5		3.4		24.1		8.3
4a	T	10	6.0	2	1.2	2	1.2	10	6.0	4	2.4
	B		2.0		.4		.4		2.0		.8
5	T	15	9.0	..	..	1	.7	18	12.9	..	..
	B		6.0		..		.5		8.6		..
5a	T	8	4.8	..	..	..	..	11	6.6	..	..
	B		1.6		..		..		2.2		..
6	T	9	6.5	2	1.6	..	..	3	2.3	..	..
	B		4.4		1.0		..		1.6		..
6a	T	..	..	..	..	..	..	2	1.2	..	..
	B		..		..		..		.4		..
7	T	..	..	..	..	..	..	6	5.0	..	..
	B		..		..		..		3.4		..
8	T	1	1.2	..	..	..	..	..	..	..	..
	B		.8		..		..		..		..
b	T	25	5.0	91	18.2	3	.6	281	56.2	7	1.4
	B		..		..		..		..		..
d	T	30	36.0	3	3.6	1	1.2	14	16.8	2	2.4
	B		24.0		2.4		.8		11.2		1.6
Total calls...		249		148		24		507		49	
Total A.....		171.2		63.3		16.7		232.5		30.9	
Total B.....		99.4		32.5		24.1		86.9		22.3	
Total A and B.		270.6		95.8		40.8		319.4		53.2	
Per cent of operators' time to each class.		28.6		10.1		4.3		33.8		5.6	

II.

SPRING GREEN.

TIME TO VARIOUS CLASSES OF SERVICE.

to incoming service.
to outgoing service.

(calls *from* these classes).

6		7		8		d		Total inc. calls.	Total B	
T	A	T	A	T	A	T	A			
..	..	5	3.6 2.4	8	9.6 6.4	10	6.0 14.0	193	97.4	99.4
..	..	..	..	1	1.2 .8	..	..	7	2.0	
..	..	1	.8 .5	..	..	1	.6 1.4	55	29.30	32.5
..	..	..	..	..	..	..	..	16	3.2	
2	1.6 1.1	..	..	..	..	..	..	42	23.1	24.1
1	.6 .2	..	..	..	..	..	..	5	1.0	
5	4.2 2.8	11	9.2 6.2	3	4.1 2.8	2	2.4 1.6	148	81.1	86.9
..	..	1	.6 .2	..	..	..	..	29	5.8	
..	..	..	..	4	5.0 3.4	..	..	38	18.5	22.3
..	..	..	..	..	..	..	..	19	3.8	
..	..	2	1.6 1.0	..	..	1	1.2 .8	17	8.8	9.2
..	..	..	..	..	..	..	..	2	.4	
..	..	..	..	..	..	..	..	6	3.4	3.4
..	..	..	..	..	..	3	.. 12.0	4	12.8	12.8
39	7.8 ..	36	7.2 ..	14	2.8 ..	..	.. ..	496	..	..
3	3.6 2.4	..	.. ..	6	24.0 ..	..	.. ..	59	42.4	42.4
50		56		36		17		1,136		
17.8 9.2 27.0		23.0 3.4 26.4		46.7 12.8 59.5		10.20 42.4 52.60		945.30		
2.9		2.8		6.3		5.6		100.		

Classes of Service.

No. 1.—Calls to or from village lines (Spring Green).
No. 2.—Calls to or from rural subscribers on lines connecting with a 2nd exchange.
No. 3.—Calls to or from 2nd exchange over loaded rural lines.
No. 4.—Calls to or from rural lines not connecting with a 2nd exchange.
No. 5.—Calls to or from trunk lines to other central offices.
No. 6.—Calls to or from trunk lines running from Fernan to Spring Green.
No. 7.—Calls to or from Arena and Ridgeway Telephone Company's loaded rural line.
No. 8.—Calls to or from long distance.
a.—Busies.
b.—Ring back calls.
d.—Calls other than busies ending or originating at central office.

In order to arrive at a proper apportionment of the operator's time to switching service for the petitioner's rural line entering the Spring Green exchange and to determine the relative use by the companies concerned of the trunk line between Fernan and Spring Green, a twenty-four hour traffic study was made at the Spring Green exchange on November 21, 1913. The compilation of this traffic study involves practically the same steps as are outlined in the case *In re Application of the Farmers Telephone Company of Beetown for Authority to Increase Its Rates and Other Relief*, 1913 13 W. R. C. R. 540, hence only the results together with some other necessary information regarding the study was set down in the foregoing tables.

Trunk Line.

The traffic study shows that there were 17 completed calls going out over the trunk line from the Spring Green exchange and 11 completed incoming calls over this line during the same period. (See traffic study, No. 6 class of service.) This indicates that the respondents in this case do make considerable use of the line and hence should share in its maintenance and operation; in fact, the ratio of the incoming to the outgoing traffic indicates that the respondents should bear a larger share in the upkeep of the line than the petitioner. However, when we consider that both incoming and outgoing traffic is of value to both parties using the line, it seems fair in this case — and it will be so ordered — that each party share equally in the upkeep of the connection between the two exchanges.

The following is a computation of the cost of the upkeep of this line. Depreciation at 7 per cent on the cost of reproduction of the line ($246) as given above amounts to $17.22; interest at 6 per cent on $210, which figure would seem to represent a fair value upon which the owner of the line should be allowed a return, amounts to $12.60. Maintenance of 8.8 miles of wire at $1.50 per mile amounts to $13.20, and maintenance of 2 miles of pole line at $2.50 per mile amounts to $5.00. 158 pole contacts on foreign poles at $0.04 each amounts to $6.32. The total of the above items is $54.34.

Considering that one-half of this amount should be borne by each company the amount payable yearly by the respondents to the petitioner for the use of this line would be approximately $27.00.

It now remains to be determined what is a reasonable charge per telephone for switching service for the petitioner to pay respondents.

EXPENSE ACCOUNT—SPRING GREEN EXCHANGE.

About the only authentic data available relative to the total expense of operating and maintaining the exchange at Spring Green relate to the central office operating labor. The expense for this item amounts to $540 per year. Other items entering into the expense account and properly apportionable to switching service have been taken from the reports of a number of other companies having construction similar to this exchange, and, it is believed, should be fairly close to the actual figures for these items.

Central office operating labor	$540.00
Maintenance of central office equipment at $0.50 per line	42.50
Commercial expense at $0.35 per phone	96.25
General expense at $1.26 per phone	346.50
Total of above items	$1,025.25

The traffic study shows that the percentage of operators' time chargeable to the above rural line (No. 7 class of service) is 2.8 so that $15.12 of operators' salaries is chargeable to this line. Maintenance of central office will amount to about $0.50 for one line. The commercial expense is apportioned on the basis of the number of subscribers connected and inasmuch as one bill for all

the parties on the line will be rendered directly to the petitioner, in the apportionment of this expense this line will be considered as one subscriber. The apportioned commercial expense then will be $0.35. The general expense, apportioned on the overhead basis, amounts to $8.16. Interest and depreciation on central office equipment used by this line will be about $0.65. The sum of the above items is $24.78. This amounts to about $0.92 per phone. In view of all the conditions related to this service a charge equivalent to $1 per telephone per year seems equitable for this service and will therefore be allowed.

With respect to the number of telephones on the above line, the present proceeding will not allow of an order. As has been stated previously, the number of telephones on this one line is 27, a number which it would seem is entirely too large to afford adequate service to the patrons of the line. The traffic study indicates that there are very few calls from this line to the Arena and Ridgeway Telephone Company's exchange or, in other words, that by far the greater share of the switching is done at the Spring Green exchange, yet the percent of operators' time per telephone for this line is less than half of what it is for any other class of service out of the Spring Green exchange. Although the location of the subscribers is a factor which may influence this figure to a certain extent, the conditions nevertheless show, it seems, that the individual subscribers of the line are able to use the service only about one-half as much as the subscribers on other lines similarly situated, but having fewer telephones per line.

The Commission has under consideration at present a set of rules for service for telephone companies which, among other things, will limit the number of telephones on a line to a reasonable number. It would therefore seem to be to the best interests of all concerned that an extra wire be run out from Spring Green and that this line be divided into two parts. It would be necessary to put up about five miles of wire and the cost of this construction would be in the neighborhood of $60, including labor. It is strongly urged that the petitioner install the above outlined construction.

IT IS ORDERED: 1. That the owners of the Spring Green exchange, respondents in this case, pay to the Arena and Ridgeway Telephone Company the sum of $27 per year for the use

of the trunk line connecting the "Spring Green" and the "Fernan" exchanges.

2. That the petitioner pay to the respondents the sum of $1 per telephone per year for switching service for such telephones as are connected to the petitioner's rural lines which enter the respondents' Spring Green exchange.

WAUSAU ADVANCEMENT ASSOCIATION

vs.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted May 13, 1913. Decided Feb. 16, 1914.

The petitioner alleges that the rates charged by the respondent for the transportation of lumber and wooden boxes from Wausau to New London are unjust and unreasonable as compared with corresponding rates to other points and asks that the respondent be directed to make refund of alleged excessive charges to certain shippers. Since the hearing the respondent has reduced its rate on lumber and wooden boxes from Wausau to New London to the point claimed as reasonable by the petitioner. The charges upon which refunds are asked were based upon lawful rates.

Held: The Commission is without power to decide upon the merits of complaints against lawful charges or to authorize refund of any part of such charges except on complaint of a person aggrieved by the exaction of the charges. Inasmuch as the petitioner in the instant case is not a person aggrieved and therefore entitled to ask for refund and inasmuch as a change in rates which satisfies the petitioner has been made, the petition is dismissed.

The petitioner is a voluntary organization made up of corporations and individuals, citizens of Wausau. It complains that the rates charged on lumber and wooden boxes in carload lots by the Chicago & North Western Railway Company from Wausau to New London are unjust and unreasonable as compared with corresponding rates to other points and asks that the respondent company be directed to make refund of alleged excessive charges to certain shippers named. The petitioner further alleges that if the changes in rates asked for be not granted, the petitioner and its traffic will continue to be subjected to undue discrimination, prejudice and disadvantage.

The respondent, in its answer to the petition, denies these allegations and prays for the dismissal of the petition.

A hearing was held May 13, 1913, in the capitol at Madison, at which the petitioner was represented by *A. E. Solie* and the respondent by *C. C. Wright.*

From the petition in this case and the additional matter introduced at the hearing, it appears that this complaint was brought about by, or based upon, the fact that the rate on lumber—and consequently the rate on wooden boxes, which is based on the lumber rate—from Wausau to New London was higher than the rate for the distance between these points as named in a distance tariff applicable between points in certain groups on the respondent's line. The petition asks for the establishment of this distance rate, which, for the distance Wausau and New London, 70 miles, is 6.8 cts. on lumber, and for refund based thereon, but at the hearing witness for the petitioner asked for the establishment of a 6.5 ct. rate, and refund based thereon, alleging that this rate now applies on lumber, Wausau to New London, on the Chicago, Milwaukee & St. Paul Railway in connection with the Green Bay & Western Railroad and that it applied in the past on the respondent's line during a period of nearly four years.

Examination of tariffs on file with the Commission shows that, effective May 15, 1911, the rate on lumber, Wausau to New London, on the respondent's line was changed from 8 to 7.5 cts.; that, effective March 29, 1913, it was changed from 7.5 cts. to 7 cts., and that, effective July 12, 1913, it was changed from 7 cts. to 6.5 cts., thereby satisfying this complaint except as to its refund feature.

Refund in the amount of $52.56 is asked for in the petition on 27 shipments of wooden boxes from Wausau to New London, which moved during the period March 4, 1912, to March 27, 1913, the freight bills for which were filed with the petition; and in the additional amount of $9.68 on three shipments that moved from and to the same points subsequent to the filing of the petition, the freight bills for which were filed at the hearing. Charges on the 27 shipments are at a rate of 12.5 cts. and on the three shipments at the rate of 11.25 cts. The refund asked for on the former is based on a rate of 11.8 cts. which is a rate of 6.8 cts. on lumber for the distance of 70 miles, referred to above, plus 5 cts. per 100 lb. The refund asked for on the latter is based on a rate of 11.2 cts., which is based on 150 per cent of the lumber rate of 6.5 cts. asked for at the hearing. Reference to rates in the preceding paragraph shows that the rate on lumber, Wausau to New London, prior to March 29, 1913, was 7.5 cts.; that March 29, 1913, to July 11, 1913, inclusive,

it was 7 cts. and that since July 12, 1913, it has been 6.5 cts. Prior to March 19, 1913, the rate on wooden boxes was 5 cts. higher than the lumber rate. Effective March 19, 1913, the rate on wooden boxes was changed to 150 per cent of the lumber rate, but not to exceed 5 cts. above the lumber rate. It appears, therefore, that the rate on wooden boxes, Wausau to New London, March 4, 1912, to March 18, 1913, inclusive, was 12.5 cts., March 19 to 28, 1913, inclusive, 11.25 cts., March 29 to July 11, 1913, inclusive, 10.5 cts., and that since July 11, 1913, it has been 9.75 cts.

Examination of freight bills filed in this case indicates that the lawful rate was charged in each instance. These bills show that the shipper was the Wausau Box & Lumber Company and the receiver, or consignee, The National Condensed Milk Company, neither of which is a party to these proceedings or has filed complaint with the Commission concerning these charges. The Commission is without power to decide upon the merits of complaints against lawful charges, or to authorize refund of any part thereof, except on complaint of a person aggrieved, therefore the refund feature of this case as presented cannot be passed upon. Inasmuch as a change in the rate that fully satisfies the complaint against it has been made by the respondent, there appears to be nothing to do but to dismiss the case.

IT IS THEREFORE ORDERED, That this complaint be and hereby is dismissed.

OSHKOSH FUEL COMPANY

vs.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted Oct. 14, 1913. Decided Feb. 16, 1914.

The petitioner complains of the rates charged by the respondent for the transportation of dry slab wood and edging and asks for refund on certain shipments. The respondent's tariff provides separate schedules of rates, both distance and group, for carloads of high and low minimum weights. Shipments subject to a low minimum weight take a higher rate than shipments subject to a high minimum weight. The respondent states that the high rate, low minimum basis is intended to apply on dry slabs because of their light loading, while the low rate, high minimum is intended to apply on green slabs, cordwood and the like. The petitioner alleges that the high rate, low minimum basis is practically prohibitive when applied to dry slab wood and edging and desires to have the low rate schedule made directly applicable to shipments of this commodity by the adoption of a minimum weight or weights which can be loaded. The petitioner's request for refund appears to be based upon the fact that his orders for cars of such size that the high minimum, low rate schedules would apply to his shipments were filled by cars of a smaller size taking the low minimum.

Held: Some readjustment of the relation between the two sets of minima and rates as at present arranged should perhaps be made. (1) The minimum weights in the high rate schedules, which seem unnecessarily low, might well be advanced and the rates in these schedules reduced. No order is issued with respect to these rates, but it is recommended that the respondent submit to the Commission for approval a new schedule of minimum weights and a new schedule of rates applying in connection with these minima to supersede the present schedules. (2) The low minimum, high rate schedules, under which the charges complained of were paid, were lawfully in force when the shipments involved moved. The charges in question do not appear to be erroneous, illegal, unusual or exorbitant. Refund therefore cannot be authorized.

The petition is dismissed.

This complaint involves the reasonableness of the rates and minimum weights—duly set forth at the hearing in the papers filed—and the reasonableness of charges based upon these weights paid on certain shipments of wood. A refund, to the amount of $34.03, or such other sum as the Commission finds to be reasonable, is asked.

A hearing was held in the assembly chamber at Madison on October 14, 1913, at which *E. Moerke* appeared for the petitioner, and *C. A. Vilas,* attorney, and *H. C. Cheyney,* assistant general freight agent, for the respondent company.

The situation which brought about the complaint appears to be as follows: The respondent, in its tariff G. F. D. No. 5950–D, publishes group and distance rates on fuel wood that are subject to minimum weight based on the length of car used. There are two separate schedules of both group and distance rates and two separate sets of minimum weights applying in connection therewith. The separate schedules of rates (group and distance) are subject to the same separate set of minimum weights. The rates in the schedule subject to the lower set of minimum weights are higher than those in the schedule subject to the higher minimum weights, therefore the actual weight of any shipment determines the rate and minimum weight to apply in connection therewith. The minimum weights are as follows:

Length of car, inside measurement.	*Minimum weight.*
Cars 34′ 6″ in length and under.....	24,000 and 40,000 lb.
" under 40′ in length and over 34′ 6″.....	30,000 " 50,000 "
" 40′ and over in length.....	36,000 " 60,000 "

Rates subject to the lower set of minimum weights are about 1, 1¼, 1½ and 2 cts., in the case of group rates, and about ½, ¾, 1, 1¼, 1½, 1¾, 2, 2¼ and 2½ cts. in the case of distance rates, higher than rates subject to the higher set of minimum weights, the difference varying according to distance, the longer distances having the greater differences. The tariff is subject to western trunk lines' rules, regulations and exceptions to classification.

From the testimony offered in behalf of the petitioner it appears that the complaint is against the minimum weights and rates set forth above as applied to shipments of dry slab wood and edging only. It is alleged that the high rate, low minimum basis is practically prohibitive insofar as this kind of wood is concerned, for the reason that the rates applicable in connection with the high minimum basis are as much as this wood can stand. The main attack, therefore, is really on the high minimum, low rate basis, although the low minimum, high rate basis is necessarily involved.

Up to a short time ago, the petitioner's shipments of wood in cars larger than those ordered were charged on the basis of

the minimum weight applicable to the size of car ordered as provided, or as then understood to be provided in western trunk lines' rules to which this traffic is subject. Within the last six months or thereabouts the respondent discontinued applying this provision in connection with shipments that could not be loaded in cars of the size ordered, while the Chicago, Milwaukee & St. Paul Railway Company continues to apply this provision in connection with shipments over its line that are subject to similar minimum weights and the same rules. The petitioner avers that it is possible to load the large cars furnished with an amount equal to the capacity of the car ordered, but that such loading would be disadvantageous to both shipper and carrier.

"Soft wood slabs and edgings" is the cheapest refuse from saw mills. The petitioner is now paying 58 cts. per cord for some of it in mill yards. It is much cheaper than cordwood and is more difficult to market. Present values per cord for different kinds and lengths of slab wood delivered at Madison, which is the petitioner's best market, are: about $2.83 for four foot soft wood slabs and edgings, $3.50 to $3.75 for twelve inch soft wood slabs and $5.50 to $5.75 for hardwood slabs. Practically all slab wood is sold by the carload, based on cubic capacity of car, all cars being fully loaded. Statements of forty-five shipments of soft wood slabs and edgings and forty-two shipments of soft wood slabs without edgings, filed by petitioner, show an average weight per cord varying from 1,775 lb. to 2,166 lb. for the former and 1,844 lb. to 2,331 lb. for the latter, and a general average on both of 2,025 lb.

By way of comparison with the rates and minimum weights complained of, the petitioner referred to various rates, minimum weights on fuel wood, and distances involved, as follows:

Respondent's tariff naming rates on wood for burning brick subject to minimum weight of 36,000 lb. in cars 34′ 6″ and under and 40,000 lb. in cars over 34′ 6″. Rates on wood and slabs for fuel to Minneapolis, Minn., from Clifford, Wis., 194 miles, 4 cts.; from Dunbar, Wis., 289 miles, 5½ cts.; from Hermansville, Mich., 321 miles, 5½ cts.; from Nahma Jct., Mich., 373 miles, 6 cts.; from Armstrong Creek, Wis., 277 miles, 5 cts; and from Gladstone, Mich., 353 miles, 5½ cts., subject to minimum weight of 28,000 lb. on soft wood and 35,000 lb. on hard wood, as named in "Soo" line G. F. D. No. 8362, I. C. C. No. 2327.

Rates on fuel wood to Minneapolis, Minn., from Prentice, Wis., 211 miles, 4 cts. and from Mellen, Wis., 276 miles, 4½ cts. and similar rates to Chicago, Ill., from Westboro, Wis., 335 miles, 6¼ cts. and from Mellen, Wis., 413 miles, 7 cts., subject to minimum weight of 35,000 lb. on slab wood in box or stock cars loaded to full capacity as named in "Soo" line G. F. D. No. 14225, I. C. C. No. 3043. Rates on fuel named in C. St. P. M. & O. G. F. D. No. 2334, I. C. C. No. 3893 subject to minimum weight of 36,000 lb. on cordwood, 30,000 lb. on slabs and edgings and 25,000 lb. on trimmings and other fuel wood. The Pere Marquette Railway Company in connection with the Michigan Central or Pan Handle publishes a rate of 6½ cts. subject to minimum weight of 40,000 lb. from Bay City, Mich., to Chicago, Ill., 312 miles. Tariff authority not given. Boyne City, Gaylord & Alpena tariff No. 365, I. C. C. No. 85, names a rate of 8 cts. subject to minimum weight of 40,000 lb. Boyne City, Mich., to Chicago, Ill., 535 miles. The Grand Rapids & Indiana Railway Company publishes a rate of 6 cts. subject to minimum weight of 40,000 lb., Boyne Falls, Mich., to Chicago, Ill., 528 miles. Tariff authority not given. This rate was corrected to 8 cts. in a letter to the Commission from the petitioner under date of October 25, 1913. Tariff authority for the latter Grand Rapids & Indiana G. F. D. No. 1721, I. C. C. No. 1017. Switching charges at Chicago varying from $3.70 per car to $12.00 per car are absorbed by the "Soo" and the Pere Marquette railway companies in connection with rates to Chicago, referred to above, via these lines.

For the respondent, its assistant general freight agent stated that the present high rate, low minimum basis on fuel wood was intended to apply on dry slabs on account of light loading and the low rate, high minimum basis was intended to apply on green slabs, cord wood, etc.; that the petitioner wanted the lower rates regardless of the minimum weights applicable thereto, but witness contended that there was nothing unreasonable about the high rate, low minimum basis in connection with the petitioner's shipments as such shipments were entitled to the low rate, high minimum basis when lower charges resulted thereby; that the lower rates are unremunerative, but that the respondent is willing to reduce the minimum weights applying in connection therewith providing the rates are advanced; and that Wisconsin-Illinois rates are on a different basis than Wisconsin intrastate

rates. The respondent's representatives further said that the schedules of rates and minimum weights involved in this case have been in force since September 15, 1909. Similar schedules have been in force during the same period and are still in force on the Chicago, Milwaukee & St. Paul Railway. Prior to the establishment of these schedules the rates on wood for fuel in force generally on these lines were arranged so that a low basis of rates applied on heavy wood and comparatively high rates on light wood. The rates on heavy wood were so much per cord, regardless of actual weight, and subject to minimum weights varying from 9 to 15 cords per car, for shipments in box or stock cars, based on the capacity of car and kind of wood, green or dry. On slab wood the rates were in cents per 100 lb. subject to minimum weights of 20,000 and 24,000 lb. based on length of car. On or about the time the current rates were published the per cord rates were canceled by both the respondent and the Chicago, Milwaukee & St. Paul Railway Company. The current high minimum, lower rate schedules are based upon and average about the same as the per cord rates formerly in force on a weight basis of about 4,000 lb. per cord. At the time the change from per cord to per 100 lb. rate was made there was considerable dissatisfaction over the change on the part of wood dealers, but this matter apparently worked out satisfactorily, as the only thing that appears to cause dissatisfaction at present is the difference between the rates and minimum weights intended to apply on light wood, such as dry slabs, and the rates and minimum weights intended to apply on heavy wood. The complaint in the present case and the complaint in the pending case of *Central Wisconsin Supply Co. v. C. & N. W. R. Co.*, which was filed a short time later, are principally due to this difference. In each of these cases the petitioner wants the schedules of low rates made directly applicable to shipments of dry slabs and edgings by providing a minimum weight, or minimum weights that can be loaded regardless of the high rate, low minimum basis, which the petitioner in the instant case asserts is prohibitive. Such an adjustment of rates cannot, of course, be made without ignoring to some extent the fact that it costs the carrier more per ton of pay freight to move a lightly loaded car than it does to move a heavily loaded car.

A careful analysis of the rate schedules involved in this case makes clear that the differences between the rates subject to a

high and those subject to a low minimum weight basis follow somewhat the cost differences arrived at by the Commission. It appears, however, from the statements of actual loading, the testimony as to actual weight presented in this case, and an analysis of the respondent's equipment as listed in the Official Register that in connection with the schedules of high rates the minimum weights are unnecessarily low. The Official Register shows that out of a total of 12,272 box cars 34′ 6″and under in length owned by the respondent, all but 114 cars can be loaded with slabs and edgings to about 30,000 to 36,000 lb.; that all of its box cars under 40′ and over 34′ 6″ in length, a total of 10,209 cars, can be loaded to about 38,000 to 44,000 lb.; that all of its box, furniture and automobile cars 40′ and over in length can be loaded to about 42,000 to 68,000 lb.; and that all of its stock cars, which are practically uniform in size, can be loaded to about 33,000 lb. The latter are all 36′ long and therefore subject to 30,000 lb. minimum in connection with the high schedule of rates.

From the foregoing it is apparent that in connection with the high schedules of rates, insofar as these rates apply to shipments of slabs and edgings, the minimum weights for box and furniture cars could be advanced, and that with an advance in the minimum loading requirement some reduction could be made in rates. The facts presented indicate that insofar as shipments of slabs and edgings are concerned the low minimum, high rate schedules are of little use, for the reason that the high minimum, low rate schedules generally result in lower charges. If this is the prevailing condition it would seem that the relation between the two sets of minima and rates, as at present arranged, must be somewhat out of proportion and that perhaps some readjustment should be made. The respondent is willing to reduce the high minimum weight providing the rates applying in connection therewith are proportionately advanced. Such a readjustment, however, would not be satisfactory to the petitioner nor would it be just to shippers of heavy wood that can be loaded without difficulty up to, and in excess of, the high minimum. Readjustment, if necessary, should be along the line suggested above, that is, by advancing the low minimum and reducing the rates applying in connection with them. These minima would stand a material advance and still be low enough so that dry slabs and edgings could be loaded up to them in most

of the respondent's cars. Inasmuch as information in detail about different kinds and weights of wood, sizes of cars available and generally supplied for this traffic, etc., should be given consideration in making any readjustment of the minimum weights and rates, which information the respondent may easily obtain, it is recommended that the respondent submit to the Commission for approval a new schedule of minimum weights, and a new schedule of rates applying in connection with these minima, to supersede minimum weights and rates designated as "Note A" and "Note C" minimum weights and rates in respondent's tariff G. F. D. No. 5950–D. The Commission will issue no order affecting the rates complained of but will be very glad to pass upon the merits of schedules submitted that are in conformity with this recommendation.

The petition for refund in this case appears to be based entirely upon the fact that the petitioner's orders for cars of such size that the high minimum, low rate schedules would apply to shipments in them were filled with cars of a smaller size so that, by ignoring the low minimum, high rate schedules, overcharges may be figured out. The low minimum, high rate schedules, however, were lawfully in force when the shipments in question moved and are still lawfully in force, therefore no part of the charges on any shipment subject to these rates may lawfully be set aside unless found to be erroneous, illegal, unusual or exorbitant, as provided in sec. 1797–37*m* of the statutes. From a careful consideration of all the facts presented in connection with this case the charges complained of do not appear to be either erroneous, illegal, unusual or exorbitant. Refund therefore cannot be authorized.

IT IS THEREFORE ORDERED, That the petition in this case be and it hereby is dismissed.

BLODGETT MILLING COMPANY
vs.
CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted Oct. 14, 1913. Decided Feb. 16, 1914.

The petitioner alleges that the refusal of the respondent to absorb the connecting line switching charges on the in-movement of carload shipments of grain stopped in transit to be milled at the petitioner's mill at Janesville and reshipped over the respondent's line is unreasonable and that this refusal results in the exaction of exorbitant charges. The petitioner also asks for refund on certain shipments. The respondent formerly absorbed the switching charges in question but in a tariff effective Aug. 2, 1912, adopted a rule abandoning this practice. All shipments over the respondent's lines delivered to the petitioner have to be switched over the tracks of the C. M. & St. P. Ry. Co. as the respondent's tracks do not extend to the petitioner's mill. The present rule on switching charges was approved by the Commission in the belief that the respondent's statement that the old rule caused considerable confusion among its local agents and that there would be very few instances where the respondent would get a haul on a shipment of grain to be milled at an industry located on another line was correct. It appears, however, that in the case of the present petitioner shipments of this kind are numerous. The respondent contends in its answer to the petitioner: (1) that the business covered by the complaint was chiefly interstate; (2) that the milling-in-transit of grain was a privilege granted to shippers at a considerable expense to the company; and (3) that it generally required twice as many cars to ship out the mill product as to bring in the grain.

The practices of other railway companies in Wisconsin with respect to the absorption of switching charges show a lack of uniformity but the respondent appears to be the only important railway company in the state which does not absorb switching charges at the stopping point on any shipment stopped in transit for any purpose.

The net cost to the respondent in having to pay the connecting line switching charge is not the full amount paid the connnecting line but only such part of this amount as exceeds what it would cost the respondent to perform the same service if the respondent operated the facilities used.

Held: The respondent's rule in force prior to Aug. 2, 1912, providing for the absorption of the switching charges of connecting lines at the stopping point on the in-movement of grain stopped in transit to be milled should be reinstated and all charges brought about by the change in this rule on the date named should be refunded. Inasmuch, however, as the data submitted with respect to the charges complained of do not show whether the shipments involved were intrastate or interstate, the Commission cannot authorize refund at this time.

It is ordered that the respondent cease and desist from requiring the petitioner to pay connecting line switching charges, except as may be necessary for the protection of minimum revenues now provided for in case of other shipments, on the in-movement of grain stopped to be milled, etc. at Janesville, the product thereof to be forwarded against transit account.

This case comes before the Commission in the form of a complaint by the Blodgett Milling Company of Janesville, Wis., reciting that the Chicago & North Western Railway Company, under a tariff issued and effective August 2, 1912, refuses to absorb switching charges on carload shipments in of grain received over its lines at Janesville and switched over the tracks of the Chicago, Milwaukee & St. Paul Railway Company to the mill of the petitioner, to be milled and reshipped over the respondent company's lines; that the tariff of the respondent company in force prior to Aug. 2, 1912, did absorb such switching charges on shipments in of grain, and that the new rule is unreasonable and results in the exaction of exorbitant charges. The petitioner further asks that the Chicago & North Western Railway Company be directed to refund the said switching charges on shipments in, amounting to $2 per car, upon nineteen carload shipments of grain received since the new rule became effective, and to refund all similar charges that may be paid to the respondent company after the filing of this complaint.

A hearing in the case was held on Oct. 14, 1913, at the office of the Commission in Madison. *D. W. Holmes,* secretary, appeared for the petitioner company and *H. C. Cheyney,* assistant general freight agent, appeared for the respondent company.

In its answer to the complaint the respondent company disputes no allegations made, except to deny that its new rules refusing to absorb the switching charges of $2 per car on shipments in is unreasonable and that it results in the exaction of exorbitant charges. The issue as to that portion of the complaint is thus made clear. It is: Shall the new rule of the respondent company remain effective and the petitioner company be obliged to pay the additional charge of $2 per car on all grain shipped to its mill over the lines of the respondent company?

It appears from the testimony submitted at the hearing by the petitioner that both the respondent and the Chicago, Milwaukee & St. Paul Railway Company have tracks running to the petitioner's property, but that only the track of the Chicago,

Milwaukee & St. Paul Railway Company extends to the mill proper, hence all cars for unloading at the mill must be switched over the Chicago, Milwaukee & St. Paul track. It also appears that the petitioner receives about forty cars of grain a month—more of it coming over the lines of the Chicago, Milwaukee & St. Paul Railway Company than over those of the respondent. The petitioner ships out monthly about an equal number of cars of mill products. The shipments in, consisting of rye and buckwheat exclusively, originate mostly in northern Wisconsin, while most of the mill products go to Ohio, Indiana, Pennsylvania and the eastern seaboard. The shipments of grain in average about 60,000 lb. to the car and the shipments of mill products out about 40,000 lb. to the car. A tabulation of shipments in and out of Janesville, furnished to the Commission by the respondent, shows that about twice as many cars are furnished for the out-shipment of the mill products as are required for the shipment in of grain.

In *Blodgett Milling Co. v. C. & N. W. R. Co.* 1912, 10 W. R. C. R. 377, it was held that the absorption of switching charges on cars earning a given revenue is a common and reasonable practice. It does not appear, however, that the matter of absorption of switching charges on shipments of grain to be milled in transit was gone into exhaustively in connection with that case. The complaint in the case asked for refund only and the respondent had voluntarily reinstated its absorption rule, the discontinuance of which caused the excessive charges against which complaint was made. The present complaint, however, directly involves the reasonableness, in and of itself, of the non-absorption of switching charges on shipments of grain stopped in transit to be milled.

Under the general rule published by the respondent company, all switching charges of connecting lines are absorbed on all shipments, except switching charges at stopping point on shipments stopped in transit, including shipments of grain stopped to be milled, etc., provided that after first deducting such switching charges the total freight charges must not be less than $15 per car on shipments going to or coming from points on the Chicago & North Western, the Chicago, St. Paul, Minneapolis & Omaha and the Pierre, Rapid City & Northwestern and the Wisconsin & Northern railways and $25 per car on all other shipments, except intrastate shipments in Wisconsin. On intra-

state shipments in Wisconsin, except on shipments going to or coming from points on the Chicago & North Western and the Chicago, St. Paul, Minneapolis & Omaha railways, the freight charges must not be less than $20 per car after first deducting such switching charges. On shipments on which the freight charges are not enough in excess of the amounts named to include all switching charges the excess over the amounts named will be absorbed.

The respondent company's answer to the complaint is in substance: (1) That the business covered by the complaint was chiefly interstate; (2) that the milling-in-transit of grain was a privilege granted to shippers at a considerable expense to the company; and (3) that it generally required twice as many cars to ship out the mill product as to bring in the grain.

In reply to the second point in the respondent's answer, Mr. Holmes for the petitioner alleged there never had been fair rates in and out, that is, a combination of locals that would equalize terminal rates, and stated that as rates were made to terminal points only, he did not think the milling in transit provision at interior points could be considered entirely a privilege, as without this provision interior mills would either have to get lower in and out rates or go out of business. He gave as an instance the Beloit to Milwaukee and Chicago rate (on grain) of 7 cts., while the combination of the Beloit to Janesville rate, 5.5 cts., and the Janesville to Milwaukee rate, 5 cts., made 10.5 cts., and said that if the provision for milling in transit at Janesville in connection with the Beloit–Milwaukee rate were stricken out the local rates in and out of Janesville should be on a 5.5 and 1.5 ct. basis, making 7 cts. through.

Some light upon the situation may be gained by a consideration of the practices as to the absorption of switching charges by other railway companies. The rules in force upon the lines of other important railway companies doing business in Wisconsin are as follows:

The Chicago, Milwaukee & St. Paul Railway Company absorbs switching charges on all shipments on which the through freight charges are $15 per car or more and on shipments where the through freight charges are less than $15 absorbs such part of the switching charges as will leave the same net freight charges as on shipments on which freight charges are $15 per car.

The Minneapolis, St. Paul & Sault Ste. Marie Railway Company (Chicago div.) absorbs switching charges on all shipments or such portion thereof as will not reduce freight charges below $15 per car on local and $20 per car on joint shipments.

The Minneapolis, St. Paul & Sault Ste. Marie Railway Company (other than Chicago div.) absorbs switching charges on all shipments that can be shipped from point of origin to destination via competitive lines without payment of such charges.

The Chicago, St. Paul, Minneapolis & Omaha Railway Company same as Minneapolis, St. Paul & Sault Ste. Marie Railway Company (other than Chicago div.) except will not absorb switching charges on shipments of grain, grain products or seeds forwarded against transit account.

The Duluth South Shore & Atlantic Railway Company absorbs switching charges not to exceed $5 per car on shipments between competitive points except shipments stopped to finish loading or to partly unload.

The Green Bay & Western and Kewaunee, Green Bay & Western railway companies absorb switching charges on all shipments except shipments originating at or destined to local stations on Green Bay lines or at Scandinavia.

Northern Pacific Railway Company. Same as Chicago, Milwaukee & St. Paul Railway Company. The Chicago, Burlington & Quincy Railroad Company. Same as the Chicago, Milwaukee & St. Paul Railway Company except that switching charges will be absorbed on shipments stored or stopped in transit to finish loading or partly unload only when destination is a competitive point.

The Illinois Central Railroad Company absorbs switching charges, or such part thereof on competitive shipments on which the freight charges after deducting the switching charges are $10 or more per car except that on grain originating at points on the I. C. R. R., also products of grain milled in transit at such points, switching charges will not be absorbed. On grain or grain products from industries on connecting lines at stations on the I. C. R. R. forwarded to competitive points on or reached via I. C. R. R., switching charges will be absorbed.

The foregoing shows a lack of uniformity among Wisconsin railway companies, yet the respondent appears to be the only important company in Wisconsin which does not absorb switching charges at the stopping point on any shipment stopped in transit for any purpose.

A word may well be said here concerning the first point in the respondent's answer to the complaint, namely that the business covered by the complaint is mostly interstate. Technically this appears to be true; yet, if conditions similar to those pointed

out by the petitioner as to rates from Beloit prevail to any extent, the so-called milling-in-transit business is a misnomer, and the business may easily be lifted out of the interstate field. If the petitioner must pay the same rate on shipments in as if Janesville were the final destination of the traffic, and must pay the same rates out as if the business originated in Janesville, then the shipments in may not be interstate business, though the out-shipments be destined for Chicago. In other words, if the petitioner is compelled to pay two local rates then he is not receiving the benefit of a milling-in-transit rate, and it would be more advantageous for him to make his shipments in intrastate.

Tariffs naming rates on grain usually provide that shipments may be stopped at any intermediate point between the points of shipment and destination for milling, cleaning, etc., and the product thereof shipped from the stopping point to destination without charge for the stop, that is, the rates named on grain include charges for stopping in transit to mill, etc. It is well known that the stopping privilege is made use of generally in connection with this traffic. The facts at hand do not show what proportion of the total traffic is stopped, nevertheless it is safe to assume that this proportion includes much the greater part of the traffic.

The stopping in transit of shipments of grain for milling, etc., as well as the stopping in transit of other commodities, usually necessitates more or less switching at the stopping point. This switching, of course, involves a service and an expense in addition to those required in connection with shipments that are not stopped in transit. There is also, it seems, some further expense in connection with grain shipments due to the necessity of furnishing more cars for shipments out of the stopping point than are required for shipments to the stopping point. It is not likely, however, that railroad companies in preparing schedules of rates to apply on grain, ignore this additional service and consequent additional expense. Switching service must be given at the stopping point by either the line over which the shipment moves or by a connecting line. The average cost of this service must be about the same, whatever line does the switching, therefore, if the service is performed by a connecting line at cost the billing line is under no more expense than it would be if it did the switching itself. The switching charge involved in this

case is $2 per car. If the petitioner's location and facilities were such that the respondent line could perform the switching for which this charge is made there would be no charge for the service, nevertheless the cost of performing it would be essentially the same as if done by a connecting line. It is apparent, therefore, that the net cost to the respondent in having to pay the connecting line for performing the service is not the full amount paid the connecting line but only such part of this amount as is over and above what it would cost the respondent to perform the same service.

The change made by the respondent in its absorption rule effective August 2, 1912, which brought about the present complaint, was approved by the Commission in its approval No. A-928, issued June 24, 1912. The respondent's letter to the Commission requesting approval of this change reads, in part, as follows:

"Heretofore we have absorbed the inbound charges to such industries but have not absorbed on the return movement. The rule has not been very well understood by our agents and has caused considerable trouble. Furthermore, so far as the grain is concerned the instances where we would get a haul on a shipment to be milled at an industry located on another line would be very rare, to say the least."

The Commission's action in the matter was, to a considerable extent, influenced by the statement quoted. It appears, however, that, insofar as the petitioner in the present case is concerned, the shipments that must be switched by a connecting line at Janesville are quite numerous. The change referred to, therefore, was an important one to the petitioner. Had the Commission been fully informed when the matter came up approval would, no doubt, have been withheld.

Under the conditions set forth above it would seem that the rule in force prior to August 2, 1912, which provided for the absorption of the switching charges of connecting lines at the stopping point on the in-movement of grain stopped in transit to be milled, etc., should be reinstated and all charges brought about by the change in this rule on the date named should be refunded. It appears, however, from the testimony taken at the hearing that some at least of the shipments involved are interstate. The bills submitted cover the switching charges only

and do not show full billing reference for the shipments. Without such complete reference the Commission cannot pass upon the intrastate or interstate character of these shipments or upon the matter of refund. In case switching charges have been paid on intrastate shipments the Commission will be very glad to take up the matter of refund of these charges on submission of both freight and switching bills for such shipments.

IT IS ORDERED, That the respondent, the Chicago & North Western Railway Company, cease and desist from requiring petitioner to pay connecting line switching charges, except as may be necessary for the protection of minimum revenues now provided for in case of other shipments, on the in-movement of grain stopped to be milled, etc. at Janesville, and the product thereof forwarded against transit account.

JOHN D. KISSINGER

vs.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY.

L. H. SCHOENHOFEN

vs.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY.

Submitted Feb. 10, 1914. Decided Feb. 16, 1914.

This proceeding involves two complaints relating to the same subject matter. The petitioners allege that the failure of the respondent from time to time to make connection at Prentice between its train No. 84 running between Minneapolis, Minn., and Pembine, Wis., and its train No. 111 running between Milwaukee and Ashland, results in great inconvenience to passengers going east, and asks that the respondent be required to make this connection at all times. The respondent has a rule requiring train No. 84 to be held for at least 30 minutes at Prentice whenever train No. 111 is late and, upon instructions from the superintendent of transportation at Minneapolis, for such longer period as may be necessary to connect with train No. 111 whenever there are any considerable number of passengers on train No. 111 who have points east of Prentice as their destination. The instant complaints appear to have been caused by the failure of the conductor on train No. 111 on a certain day to notify the superintendent of transportation that there were on the train a number of passengers requiring connection with train No. 84.

Held: In operating trains the convenience of the greater number of passengers must always be subserved. The respondent's practice at Prentice is proper and should not be interfered with. The petitions are therefore dismissed. It is suggested, however, that the conductor on train No. 111 be impressed with the duty of notifying the superintendent of transportation whenever his train is late, so that if the exigencies of the situation warrant, the latter may cause orders to be given to train No. 84 to make the connection with train No. 111 at Prentice.

The complaints in the above cases relate to the same subject matter. They allege that the respondent operates a train, No. 84, between Minneapolis, Minn., and Pembine, Wis., which ordinarily connects with the respondent's train No. 111 running from Milwaukee to Ashland; that when connection between these trains is not made at Prentice passengers going east are greatly

inconvenienced for the reason that they are required to lay over at Prentice until 12:36 a. m. for train No. 8, which does not stop at all stations; that even if train No. 8 did stop at all stations there would be often no place for passengers to be accomodated over night; that consequently many passengers are required to remain at Prentice for a period of twenty-four hours for train No. 84 arriving the next day, as this is the only train that stops at most of the stations; that said train No. 84 after leaving Prentice is run as a local and has no other connections to make between that point and Pembine, its destination. The petitioners ask that the respondent be required to make connection at all times at Prentice between trains No. 84 and No. 111.

The answers set forth among other things that train No. 84 is an interstate train and makes connections with the Marinette, Tomahawk & Western Railway train at Bradley, with the Chicago, Milwaukee & St. Paul Railway train at Hefford Junction; with the Laona & Northern Railway train at Laona; and with the Wisconsin & Northern Railway train at Wisconsin and Northern Junction; that train No. 84 carries a great many passengers, and that the inconvenience to them from holding said train unduly in order to await the arrival of No. 111 when the latter train is abnormally late, would be a greater inconvenience than the inconvenience complained of in the petitions; that it is impossible to so conduct any business that no passengers may suffer inconvenience at times, and that such inconvenience is not a sufficient basis upon which to disarrange the method of operating a train which the respondent endeavors to operate so as to best serve the greatest number of passengers.

The matter came on for hearing on February 10, 1914. The petitioners were represented by *L. H. Schoenhofen,* the respondent by *E. F. Potter.*

It appears that on August 18, 1913, the petitioners and others having Marshfield as their destination found upon their arrival at Prentice on train No. 111 that train No. 84 had passed. As a result they were obliged to remain at Prentice until 12:46 a. m. in order to take mixed train No. 8 for Goodman, where they remained over night and returned to Laona Junction the next morning. It was necessary to go to Goodman as there are no accomodations for lodging passengers at Laona Junction. Train No. 8 runs only to Rhinelander, and therefore can accomodate passengers arriving on train No. 111 at Prentice only so far as

that point, when connection is broken with train No. 84 at Prentice. It seems that during a period of four months the connection has been broken four times. It is the rule of the company in any event to hold train No. 84 thirty minutes at Prentice if train No. 111 is late. If the latter train is more than thirty minutes late and there are any number of passengers destined for points east of Prentice, it becomes the duty of the conductor to notify the superintendent of transportation at Minneapolis of the fact, and he in turn instructs the holding of train No. 84 at Prentice until the arrival of No. 111. On the day in question here there was evidently a neglect of duty on the part of the conductor of the train, as the number of passengers would, under the practice described, have required train No. 84 to await the arrival at Prentice of train No. 111, which was but an hour and ten minutes late.

It is difficult at junction points to keep connections at all times. It seems to us that the company's practice at Prentice is proper and should not be interfered with. However, the conductor on train No. 111 should be impressed with the duty of notifying the superintendent of transportation at Minneapolis whenever his train is late, so that if the exigencies of the situation warrant, the latter may cause orders to be given to train No. 84 to make the connection with the train No. 111 at Prentice. It must be conceded that in operating trains the convenience of the greater number of passengers must always be subserved. As it is sometimes said, the few must suffer inconvenience that the many must be convenienced. This seems to be the respondent's policy and is sanctioned both by law and justice.

NOW, THEREFFORE, IT IS ORDERED, That the petitions herein be and the same are hereby dismissed.

INDEX-DIGEST

Every point taken by the Commission has been included in the INDEX-DIGEST, whether essential to the decision or not. Wherever feasible the exact language used by the Commission, both in the *dicta* and in the decisions, has been embodied in the digest, so that for practical purposes reference back to the decision will in most cases be unnecessary.

ABSORPTION OF CHARGES.

ACCIDENTS.

ACCOUNTING.

COST ACCOUNTING—ELECTRIC UTILITIES.

Determination of unit costs—Apportionment of expenses over output, capacity, and consumer expenses—Further apportionment among the different departments of the service.

1. Apportionment of expenses between capacity and output expenses; further apportionment among street lighting, commercial lighting and power. *In re Appl. Neshkoro Lt. & P. Co.* 52, 62.

2. Apportionment of expenses between capacity and output expenses; further apportionment among commercial lighting, commercial power and street lighting. *City of Waukesha v. Waukesha G. & El. Co.* 100, 121–123.

3. Apportionment of expenses between output and capacity expenses; further apportionment among incandescent lighting, power, arc lighting and traction service. *In re Madison G. & El. Co.* 259, 261–262.

4. Apportionment of expenses, (1) under existing operating conditions and (2) under new operating conditions, between capacity and output; further apportionment between commercial lighting and street lighting. *In re Appl. Mt. Horeb Heat, Lt. & P. Co.* 653, 658, 660.

Determination of unit costs—Apportionment of expenses over output, capacity, and consumer expenses—Further apportionment among the different departments of the service—Basis of apportionment.

5. The separation of the capacity and output expense in the instant case between the different classes of service has been complicated by the fact that the maximum or peak load on the station occurs in sum-

mer in the daytime and is therefore to be attributed almost entirely to the power business. This condition must reflect itself in the distribution of expenses over the various services. It would be clearly unjust to assess on the basis of peak responsibility the entire capacity portion of generation and fixed costs to the power business. It is obvious that the use of the investment theoretically caused by the peak load should also be taken into consideration. As the service demands through their load factors are the best determinants of such use it is considered fair in this case to separate the expenses above mentioned on this basis. *City of Waukesha v. Waukesha G. & El. Co.* 100, 122.

Determination of unit costs—Apportionment of expenses over output, capacity and consumer expenses—Further apportionment among various service districts.

6. Street lighting expenses reapportioned to the various communities supplied with street lighting. *In re Appl. Neshkoro Lt. & P. Co.* 52, 64.

Determination of unit costs—Prorating of output, capacity and consumer expenses.

7. Commercial lighting expenses prorated over the demand and output to obtain unit cost per kw-hr. *In re Appl. Neshkoro Lt. & P. Co.* 52, 63.

COST ACCOUNTING—GAS UTILITIES.

Determination of unit costs—Apportionment of expenses over output, capacity and consumer expenses.

8. Apportionment of expenses between consumer expenses and output expenses. *Yanko et al. v. Portage American G. Co.* 136, 142.

9. Tentative apportionment of expenses, with interest reckoned at 6 per cent and 7 per cent, respectively, between consumer and output expenses. *In re Appl. Manitowoc G. Co.* 325, 336–337.

Determination of unit costs—Apportionment of expenses over output, capacity and consumer expenses—Interest, depreciation and taxes.

10. Depreciation apportioned between consumer and output expenses upon the basis of the actual amount which must be set aside to replace the property distributed as to consumer and output investment. *City of Waukesha v. Waukesha G. & El. Co.* 100, 118.

11. Taxes and interest apportioned between consumer and output expenses upon the basis of the actual property to which such expenses are attributable. *City of Waukesha v. Waukesha G. & El. Co.* 100, 118.

COST ACCOUNTING—JOINT UTILITIES.

Determination of unit costs—Apportionment of expenses among different plants (electric, gas and heating utilities)—General and undistributed expenses—Basis of apportionment.

12. In making its reports to the Commission the company has apportioned general expenses over the utilities on the basis of sales. Although practice has indicated that the separation of such expense should be made on the basis of the direct expense, it is not clear, especially in the instant case, that this method would produce results more nearly correct than the one used. *City of Waukesha v. Waukesha G. & El. Co.* 100, 115.

Determination of unit costs—Apportionment of expenses among different plants (electric, gas and heating utilities)—Interest, depreciation and taxes.

13. Taxes apportioned to the three utilities on the basis of the valuation made by the Commission. *City of Waukesha v. Waukesha G. & El. Co.* 100, 115.

Determination of unit costs—Apportionment of expenses among different plants (electric utility and street railway)—Interest, depreciation and taxes.

14. Apportionment of taxes between railway and lighting. *In re Service of T. M. E. R. & L. Co. in Milwaukee*, 178, 227.

COST ACCOUNTING—STREET RAILWAYS.

Determination of unit costs—Apportionment of expenses among allied companies—Maintenance of way.

15. Apportionment of maintenance of way expenses between the T. M. E. R. & L. Co. and the M. L. H. & T. Co. *In re Service of T. M. E. R. & L. Co. in Milwaukee*, 178, 216–219.

COST ACCOUNTING—TELEPHONE UTILITIES.

Determination of unit costs—Apportionment of value of physical property among different exchanges.

16. Apportionment of the value of physical property to show the value of property included in two exchanges used by foreign companies. *In re Appl. Farmers' Tel. Co. of Beetown*, 540, 553–554.

Determination of unit costs—Apportionment of value of physical property among different exchanges—Bases of apportionment.

17. The percentages of rural property assigned to the exchanges in question have been determined by taking an average of the results obtained by the use of the following two methods: 1. Rural property was divided according to the number of rural phones paying rental to the various exchanges. 2. From data at hand the total wire mileage of each exchange was estimated and the percentage to be apportioned to each exchange was computed. The results obtained by the two methods were very nearly identical and it is believed that an average of these results represents a fair division of the rural property. *In re Appl. Farmers' Tel. Co. of Beetown*, 540, 553–554.

Determination of unit costs—Apportionment of value of physical property to show value of property used by foreign telephone utilities.

18. Apportionment of the value of physical property to show the value of the property used by other telephone companies. *In re Appl. Farmers' Tel. Co. of Beetown*, 540, 552–553.

Determination of unit costs—Apportionment of exchange expenses among the different departments of the service, urban, rural and rural connecting lines.

19. Apportionment of the expenses of the Spring Green exchange to the switching service for the rural lines of the Arena & Ridgeway Tel. Co. upon the basis of a traffic study. *Arena & Ridgeway Tel. Co. v. Troy & Honey Creek Tel. Co. et al.* 763, 769–770.

Determination of unit costs—Apportionment of expenses to switching service—Further apportionment among different foreign lines and foreign subscribers.

20. Apportionment on the basis of a traffic study of total expenses of exchanges performing switching service for foreign lines to show cost of this service; further apportionment to show expense to (1) foreign lines not connecting with second exchange; (2) foreign lines connecting with second exchange; (3) subscribers on foreign lines connected with second exchange; and (4) second exchange. *In re Appl. Farmers' Tel. Co. of Beetown*, 540, 558–570.

21. Apportionment of additional expense, incident to betterment of service, to cost of switching service; further apportionment to show expenses to (1) subscribers on foreign lines not connected with second exchange; (2) expense to subscribers on foreign lines connecting with second exchange; and (3) expense to second exchange. *In re Appl. Farmers' Tel. Co. of Beetown*, 540, 581–582.

Determination of unit costs—Apportionment of expenses to switching service—Further apportionment among different foreign lines and foreign subscribers—Bases of apportionment.

22. The percentages applied to the "Central office operating labor" are those given in the traffic study for these classes of service. The apportionment of "Central office supplies and expenses and maintenance" is made on the basis of the total number of lines of each class connected to the switchboard. The "Wire plant expense" apportionment is made on the basis of the relative value of the equipment owned by the Farmers' Tel. Co. and serving the various classes. The "Commercial" expenses are apportioned according to the ratio of the number of foreign lines for a particular class of service to the total number of Farmers' Telephone Company's subscribers served by the exchange. This basis assumes that the bills for switching service will be rendered to each foreign company for each line connected to the switchboard of the Farmers' Telephone Company. The "General" expenses were apportioned as overhead to the other expenses. The apportionment of the total expenses for lines connecting with a second exchange to the subscribers on these lines and to the second exchange is made on the basis of the division of operator's time between these two classes of service. *In re Appl. Farmers' Tel. Co. of Beetown*, 540, 570.

COST ACCOUNTING—WATER UTILITIES.

Determination of unit costs—Proper system of accounting.

23. For the purpose of cost analysis a system of accounts should be used that shows the direct operating expenses of the utility grouped into accounts covering the different steps of production in chronological order. Thus, the direct expenses of a water utility are grouped into: Pumping, distribution, and commercial. The items included in these accounts can be charged directly to the various steps in the furnishing of water. The indirect expenses, also called "overhead" or "fixed," are grouped into general, undistributed, interest, depreciation, and taxes. These expenses cannot be charged to any particular operation, but must be distributed on some basis over the different units of the product. It is obvious that the indirect or capacity expenses do not vary with output, but that, on the other hand, they are occasioned in supplying that output and that output, therefore, should bear its proportionate part. *Vil. of Sharon v. United Heat, Lt. & P. Co.* 1, 9–10.

Determination of unit costs—Prorating of output, capacity and consumer expenses.

24. In determining equitable water rates, no accurate demand data being generally available, the capacity expenses may sometimes be apportioned over the total number of consumers. The variable charge per unit used, which in the present case is one thousand gallons, is obtained by dividing the sum of all those expenses charged to output by the number of gallons of water consumed. *Vil. of Sharon v. United Heat, Lt. & P. Co.* 1, 10.

UNIFORM ACCOUNTS—ELECTRIC UTILITIES.

In general—Keeping of accounts—Conformity to Public Utilities Law required

25. The smallness of the plant cannot be accepted as an excuse for keeping lax operating and accounting records. Some definite procedure should be adopted. The plan of operating without station records or meters results in a lack of reliable data of the output, demand or costs of generation and must be condemned. *In re Appl. Neshkoro Lt. & P. Co.* 52, 61.

UNIFORM ACCOUNTS—STREET RAILWAYS.

Construction and equipment accounts—Paving.

26. The propriety of including paving construction costs as a deduction from income is questionable and it seems more equitable to consider them as capital expenditures. *In re Service of T. M. E. R. & L. Co. in Milwaukee*, 178, 233.

UNIFORM ACCOUNTS—WATER UTILITIES.

In general—Keeping of accounts—Proper system of accounting. *See ante*, 23.

ADVANCE IN RATES.

See RATES.

ADVANTAGE.

See DISCRIMINATION.

ALLOWANCES.

See also REBATES OR CONCESSIONS.

Failure to make allowances for car stakes, as ground for refund, *see* REPARATION, 10.

Rebates or concessions, allowance to customer of electric utility on account of ownership of instrument or facility, rate concession prohibited, *see* REBATES OR CONCESSIONS, 1.

ANNUNCIATORS.

Annunciators, for protection of railroad crossings, *see* RAILROADS, 6.

APPORTIONMENT.

Apportionment of cost of viaduct for protection of crossing among railway, city and street railway, *see* RAILROADS, 3, 20.

of expenses in the determination of unit costs, *see* ACCOUNTING, 1–6, 8–22.

APPRAISAL.

AUTOMATIC CROSSING ALARM.

BARK.

BEER.

BINDER TWINE.

BLANKET RATES.

BLOCK EXPRESS RATES.

BLOCK SYSTEM OF RATES.

BLOCKS.

BOXES.

BRICK.

BUILDING MATERIALS.

CAPACITY COSTS.

As element considered in making rates for electric utilities, *see* RATES —ELECTRIC, 7–12.
for gas utilities, *see* RATES—GAS, 1–2.
for heating utilities, *see* RATES—HEATING, 1.
for water utilities, see RATES—WATER, 1–4.

CAPACITY EXPENSES.

Apportionment of capacity expenses in the determination of unit costs for electric utilities, *see* ACCOUNTING, 1–6.
Prorating of capacity expenses in the determination of unit costs for electric utilities, *see* ACCCUNTING, 7.
for water utilities, *see* ACCOUNTING, 24.

CAR SERVICE.

Interurban railway car service, *see* INTERURBAN RAILWAYS, 2, 4–5.
Street railway car service, *see* STREET RAILWAYS, 2, 17–24.

CAR STAKES.

Refund from charge erroneously made upon return shipment of car stakes, *see* REPARATION, 10.

CAR STORAGE AREA.

Limitation of car storage area for protection of railway crossings, *see* RAILROADS, 9.

CARLOAD RATES.

See RATES—RAILWAY.

CARLOAD WEIGHTS.

See WEIGHTS.

CARRIERS.

CONTROL AND REGULATION OF COMMON CARRIERS.

Power of state to regulate charges, *see* RATES—INTERURBAN; RATES—RAILWAY; RATES—STREET RAILWAY.
to regulate service and facilities, *see* INTERURBAN RAILWAYS; RAILROADS; STREET RAILWAYS.

CARS.

Minimum carload weights, *see* WEIGHTS.
Passenger cars, adequacy of, *see* INTERURBAN RAILWAYS, 2; STREET RAILWAYS, 2, 18, 21–24.
"Spotting" of freight cars on public street, *see* SWITCH CONNECTIONS, 7.

CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY.

For telephone utilities—When granted.

1. We believe that it was the intention of the legislature in passing chapter 610 of the laws of 1913 (sec. 1797m—74 of the statutes), that

in the absence of extraordinary conditions encroachments by one utility into the territory of another should not be permitted where adequate service at reasonable rates can be obtained from the utility whose facilities already occupy the field. *In re proposed Extension Clinton Tel. Co.'s Lines*, 166, 168.

CHARGES.

See DEMURRAGE CHARGES; MINIMUN CHARGES; RATES; SWITCHING CHARGES; TERMINAL CHARGES.

CITIES.

See MUNICIPALITIES.

CLASS RATES.

See RATES.

CLASSIFICATION.

CLASSIFICATION IN RAILWAY TRANSPORTATION.

Freight rates, unreasonableness of, due to unjust classification, *see* RATES—RAILWAY, 26, 37.

COKE.

Rates, absorption of switching charges, Fond du Lac to No. Fond du Lac, *see* RATES—RAILWAY, 23.

Rates, reasonableness of, and refund on shipment, Racine to No. Fond du Lac, *see* RATES—RAILWAY, 23; REPARATION, 20.

Routing of shipment, Racine to No. Fond du Lac, *see* RATES—RAILWAY, 23; REPARATION, 20.

COMMERCIAL CONDITIONS.

See also COMPETITION.

As element considered in making railway rates, see RATES—RAILWAY, 5–6.

As matter considered in determining reasonableness of railway rates, *see* RATES—RAILWAY, 14.

COMMISSION.

See RAILROAD COMMISSION.

COMMODITIES.

See various commodity subject headings.

COMMODITY RATES.

See RATES—RAILWAY; *also* various commodity subject headings.

COMMON CARRIERS.

See CARRIERS.

COMPARISON OF RATES.

Comparative data as element considered in making railway rates, *see* RATES—RAILWAY, 4.

as matter considered in determining reasonableness of electric rates, *see* RATES—ELECTRIC, 21.

COMPETITION.

Competitive conditions as element considered in making railway rates, *see* RATES—RAILWAY, 5–6.
as matter considered in determining reasonableness of railway rate, *see* RATES—RAILWAY, 14.

COMPOSITE LIFE.

Of public utility plants, *see* DEPRECIATION, 2, 5–7, 10.
Of street railway plants, *see* DEPRECIATION, 8–9.

CONCENTRATION RATES.

See RATES—RAILWAY.

CONCESSIONS.

See REBATES OR CONCESSIONS.

CONNECTING CARRIERS.

Joint or through rates, *see* RATES—RAILWAY, 2, 3, 34, 47, 50.

CONNECTING LINE SWITCHING CHARGES.

See SWITCHING CHARGES.

CONNECTIONS.

See also TRAIN SERVICE.
Telephone lines, physical connection of, *see* TELEPHONE UTILITIES, 14–19.

CONSTRUCTION.

Continuous construction as element in the valuation of public utilities, *see* VALUATION, 6.
Construction of interurban railway cars as factor in determining adequacy of service of interurban railway company, *see* STREET RAILWAYS, 2, 18, 21–24.
Overhead expenses during construction as element in the valuation of public utilities, *see* VALUATION, 8.

CONSTRUCTION COSTS.

Construction costs of paving by street railway company to be charged to the capital account, *see* ACCOUNTING, 26.

CONSTRUCTION OF STATUTES.

Public Utilities Law, sections construed, *see* PUBLIC UTILITIES LAW.
Railroad Law, sections construed, *see* RAILROAD LAW.

CONSUMER CHARGES.

See MINIMUM CHARGES.

CONSUMER COSTS.

As element considered in determining minimum charges for electric utilities, *see* MINIMUM CHARGES.
in making rates for electric utilities, *see* RATES—ELECTRIC, 7–8, 10–12.
for water utilities, *see* RATES—WATER, 1–4.

CONSUMER EXPENSES.

See also MINIMUM CHARGES.

Apportionment of consumer expenses in the determination of unit costs for gas utilities, *see* ACCOUNTING, 8–9.

Prorating of consumer expenses in the determination of unit costs for electric utilities, *see* ACCOUNTING, 7.

for water utilities, *see* RATES—WATER, 1–4.

CONTINUOUS CONSTRUCTION.

As element in the valuation of public utilities, *see* VALUATION, 6.

CONTRACT OF SHIPMENT.

Contract for different rate than that stated in published tariff.

1. We have repeatedly held that even where a shipment is made upon the quotation of a rate by a carrier's agent, which rate afterwards proves to be inapplicable, the shipper is nevertheless liable to pay the legal and published charges. *Callaway Fuel Co. v. C. & N. W. R. Co. et al.* 694, 697.

CONTRACTORS.

Commission without authority over authorization of contractors to do work or their dealings with private parties.

1. The Commission has no jurisdiction over the authorization of contractors to do work or over their dealings with private parties. *Freeholders etc. of Dodge County v. McWilliams*, 603, 605.

CONTRACTS.

Contractual relations, payments of rates for services rendered by public utility to be uniform without reference to contractual relations between utility and its customers, *see* RULES AND REGULATIONS, 7.

CORDWOOD.

See WOOD.

COST ACCOUNTING.

See ACCOUNTING.

COST OF BUILDING UP THE BUSINESS.

Net cost of building up the business, as element in the valuation of public utilities, *see* VALUATION, 2–3, 11–12.

COST OF REPRODUCTION.

Cost of reproduction new as matter considered in the valuation of public utilities, *see* VALUATION, 4–9, 13–15.

COST OF SERVICE.

As element considered in making rates for electric utilities, *see* RATES—ELECTRIC, 3–12.

for gas utilities, *see* RATES—GAS, 1–2.

for heating utilities, *see* RATES—HEATING, 1.

for railways, *see* RATES—RAILWAY, 7–8.

for street railways, *see* RATES—STREET RAILWAY, 3.

for toll bridges, *see* RATES—TOLL BRIDGE, 1.

As matter considered in determining reasonableness of rates for electric utilities, *see* RATES—ELECTRIC, 21.
for street railways, *see* RATES—STREET RAILWAY, 7.
Cost of service of electric utilities, *see* ACCOUNTING, 1–7, 12–14.
of gas utilities, *see* ACCOUNTING, 8–13.
of street railways, *see* ACCOUNTING, 14–15.
of telephone utilities, *see* ACCOUNTING, 16–22.
of water utilities, *see* ACCOUNTING, 23–24.

CROSSINGS.

See INTERURBAN RAILWAYS; RAILROADS; STREET RAILWAYS.

CRUSHED STONE.

See GRAVEL AND CRUSHED STONE.

DAMAGES.

See INJURIES AND DAMAGES.

DEFINITIONS.

See specific headings.

DELIVERY SERVICE LIMITS.

Express delivery limits—Free delivery service.

1. Sec. 1798 of the statutes fixes the free delivery district of the United States post-office department as the minimum area in which express companies must call for and deliver express. *Heineman Lbr. Co. v. Wells Fargo Exp. Co.* 594, 596.

2. There must be some limits to the area within which express companies may be required to deliver express and the boundaries of the municipality are most satisfactory for this purpose. (*Strauss v. American Exp. Co.* 1909, 3 W. R. C. R. 556.) *Heineman Lbr. Co. v. Wells Fargo Exp. Co.* 594, 596.

DEMURRAGE CHARGES.

Reasonableness of demurrage charges for delays caused by floods, *see* RATES—RAILWAY, 24.

DEPOSIT.

Regulations as to payment of rates for services rendered by public utility; requirement of money deposit, *see* RULES AND REGULATIONS, 2–4, 8–10, 13–14.

DEPOTS.

See STATION FACILITIES.

DEPRECIATION.

Apportionment of depreciation in the determination of unit costs for gas utilities, *see* ACCOUNTING, 10.
As element considered in making rates for water utilities, *see* RATES—WATER, 1.
As element considered in the determination of minimum charges for electric utilities, *see* MINIMUM CHARGES, 1.
As element in valuation of public utilities, *see* VALUATION, 14, 16–18.

IN GENERAL.

Necessity of allowance for depreciation.

1. Correct accounting demands that an amount be set aside each year for depreciation equal to the decrease in the value of the property due to wear and tear, obsolescence, inadequacy, etc., in order that the capital be not impaired, and also in order to show the present value of the property. If such depreciation is not shown, either as a reserve or a deduction from plant value, the fixed assets of the company are misrepresented. *In re Purchase Manitowoc El. Lt. Plant*, 452, 464.

COMPOSITE LIFE.

Composite life of toll bridge.

2. The composite life of the property in the instant case is estimated at 35 years. *Marcus et al. v. Postel & Swingle*, 47, 50.

DEPRECIATION RESERVE.

Necessity for assets offsetting reserve.

3. It seems unnecessary to further explain that the assets offsetting the depreciation reserve represent that part of the plant which is worn out, that some time in the future they will be needed to replace such worn out parts and that, consequently, if these assets are paid out as dividends, it will be necessary to obtain funds from some other source to make replacements when they become necessary. *In re Invest. Mosinee El. Lt. & P. Co.* 712, 714.

DEPRECIATION RESERVE CHARGE.

Determination of annual charge—Choice of methods.

4. It does not seem fair to allow a continuously operating property an expense for financing depreciation on a straight line basis. A company as large as the T. M. E. R. & L. Co., with a number of joint utilities and subsidiary properties under its control and with numerous opportunities for commercial investment, can readily invest any offsetting assets of the depreciation reserve liabilities at an average of 4 per cent return or better. To assume that under these conditions the company would allow money to remain idle within its business would be to question the capability of the company's administration. The straight line basis adopted in the *Fare Case* was justified on the ground that the 12 per cent overhead expense item was not included in the property upon which, in the first instance, depreciation was computed. It appears, however, that about half or more of the overhead does not ordinarily depreciate, inasmuch as a number of the expenses which are grouped in the item "overhead" do not have to be repeated except when there is total supersession of the plant. In view of this fact the 4 per cent basis for financing depreciation with about one-half of the overhead included as depreciable property seems to be the most equitable basis for the present case. Upon this basis the annual depreciation is 4.32 per cent on the wearing value plus one-half of the overhead costs. *In re Service of T. M. E. R. & L. Co. in Milwaukee*, 178, 227–228.

RATE OF DEPRECIATION.

Rate of depreciation of electric plant.

5. A study of forty-two physical valuations of plants varying from one to twenty-four years in age, shows the following descriptive data of the ratio of present value to cost new: minimum 64.6 per cent, average 76.6 per cent, medium 74.7 per cent, and maximum 97.7. per cent. From these data it is seen that a plant that has been in opera-

tion for some time is likely to have depreciated about 25 per cent. *In re Purchase Manitowoc El. Lt. Plant*, 452, 464.

6. The annual charge for depreciation in the instant case was computed upon the basis of a 4 per cent sinking fund and an average life of 12.64 years. *In re Invest. Mosinee El. Lt. & P. Co.* 712, 716.

Rate of depreciation of gas plant.

7. In the instant case depreciation is computed at 2 per cent on the cost new. *Yanko et al. v. Portage American Gas Co.* 136, 141.

Rate of depreciation of paving constructed by street railway company.

8. In the instant case, the rate of depreciation allowed upon the paving constructed by the company was computed upon the basis of the average life of granite paving, brick, asphalt and creosote block paving and the final average life of paving under Milwaukee conditions was placed at twelve and one-half years where track renewals were the determining feature, and the final average life of granite block was placed at twenty-one years. *In re Service of T. M. E. R. & L. Co. in Milwaukee*, 178, 234.

Rate of depreciation of street railway plant.

9. Upon the 4 per cent basis for financing depreciation with about one-half of the overhead included as depreciable property the rate of depreciation in the instant case is 4.32 per cent on the wearing value plus one-half the overhead costs. *In re Service of T. M. E. R. & L. Co. in Milwaukee*, 178, 228.

Rate of depreciation of water plant.

10. In making the computations in the instant case, depreciation has been included at the rate of approximately 0.63 of 1 per cent, which was the rate used in the computations in the earlier decision involving the rates of this company. *In re Purchase Antigo W. Co's Plant*, 156, 162–163.

DESTINATION SIGNS.

Street railways, destination signs to be displayed on cars to improve service of, *see* STREET RAILWAYS, 18.

DEVELOPMENT COSTS.

See also GOING VALUE.

As element in the valuation of public utilities, *see* VALUATION, 2–3, 11.

DIRECT EXPENSES.

As element considered in making rates for water utilities, *see* RATES—WATER, 1–2.

DISADVANTAGE.

See DISCRIMINATION.

DISCOUNTS.

Discounts on bonds as element in the valuation of public utilities, *see* VALUATION, 7.

DISCRIMINATION.

AS BETWEEN CUSTOMERS.

Electric rates—Different rates to customers on account of ownership of instrument or facility.

1. The Public Utilities Law (sec. 1797m—90) provides that a public utility shall not give a lower rate to a consumer who owns a meter than to another consumer whose meter is owned by the utility. *In re Appl. Neshkoro Lt. & P. Co.* 52, 54.

Electric rates—Discrimination due to flat rates.

2. Under a system of flat rates there is a considerable tendency for consumers to extend their installations or to increase the sizes of their lighting units without the knowledge of the company and the consumer who uses his lights but a short time each day is thereby required to pay as much as the consumer who uses them many hours per day. Inequalities of this kind are bound to arise when flat rates per lamp are fixed without regard to the time the lamps are used. *In re Appl. Village of Withee*, 704, 709.

Electric rates—Discrimination due to straight meter rate.

3. A straight meter rate can be satisfactory only when all consumers have about the same demand or installation and use the current about the same length of time each day. *In re Appl. Neshkoro Lt. & P. Co.* 52, 54.

Express service—Refusal to deliver to customer beyond city limits.

4. The petitioner alleges that the respondent unjustly discriminates against it by refusing to deliver express to it at its offices which are located a few hundred feet beyond the corporate limits of the city of Merrill. The respondent delivers express to any point within the city limits, although these limits extend beyond the free delivery district of the United States post-office department which is fixed by sec. 1798 of the statutes as the minimum area in which express companies must call for and deliver express, but does not extend this service to any person or corporation located outside the city limits. *Held:* There must be some limits to the area within which express companies may be required to deliver express and the boundaries of the municipality are most satisfactory for this purpose. *Strauss v. American Exp. Co.* 1909, 3 W. R. C. R. 556. The complaint is dismissed. *Heineman Lbr. Co. v. Wells Fargo Exp. Co.* 594, 596.

AS BETWEEN LOCALITIES.

Excursion train service granted to certain localities and refused to another of equal importance.

5. The petitioner alleges that the train service furnished by the respondent at Winnibijou, Douglas county, is inadequate and discriminatory because of the respondent's failure to stop its Sunday excursion train at that point. The train in question is operated during the summer months from Duluth, Minn., to Bibon, Wis., and return, and stops at all stations in Wisconsin between Superior and Bibon except Winnibijou. The respondent advances as its reason for refusing to stop the train at Winnibijou the fear that the practice of stopping at this point would be detrimental to the interests of the Winnibijou Fishing Club and ultimately its own interests. *Held:* The reason given by the respondent for its refusal to render the service desired cannot be ac-

cepted. The failure of the respondent to stop its Sunday excursion train at Winnibijou, while making stops at other stations of equal or less importance, is unjustly discriminatory. The respondent is therefore ordered to arrange the future schedule of its summer Sunday excursion train between Superior and Bibon to provide a stop at Winnibijou. *Hughson v. D. S. S. & A. R. Co.* 406, 408.

AS BETWEEN PASSENGERS.

Interurban zone system rates.

6. The so-called five-cent zone system of suburban and interurban rates in use on many interurban electric railways is unscientific and inequitable because of the unequal zone distances used, the concessions made to favored localities and favored classes of passengers at the expense of other localities and other classes of passengers and the consequent shifting of costs, in the form of excessive rates, onto patrons in the localities or classes discriminated against. In the instant case the one-way fares charged for different trips over the suburban and interurban lines of the two companies vary widely when compared on a passenger-mile basis. This discrimination has given rise to other discriminations such as those involved in the granting of overlapping zones and special and round trip rates to favored points. *In re Milw. Suburban & Interurban Ry. Rates*, 475, 482–484.

AS BETWEEN SHIPPERS.

Switching charges—Milwaukee.

7. The charging of a regular distance rate to a certain shipper when other shippers within the same switching district are given the advantage of a special switching tariff is a form of discrimination which cannot be justified. *Milwaukee Structural Steel Co. v. C. M. & St. P. R. Co.* 673, 674.

AS BETWEEN SUBSCRIBERS.

Telephone service—Extensions of lines—Discrimination between stockholders and nonstockholders prohibited.

8. The fact that the persons to whom the respondent desires to extend its service are shareholders, is immaterial, for service must be rendered to shareholders upon the same terms and conditions as to other subscribers. *Tri-State Tel. & Teleg. Co. v. St. Croix F. M. Tel. Co.* 437, 439.

Telephone rates—Toll rates—Refusal of free toll service to telephone company without proprietary interest in the toll line not an unjust discrimination.

9. The petitioner requests that the respondent be compelled to grant it the same terms for toll service over the respondent's toll line from Galesville to La Crosse that the respondent grants to the Western Wisconsin Tel. Co. The respondent collects from the petitioner 75 per cent of the tolls received by the petitioner from its subscribers for use of the toll line in question. The respondent and the Western Wisconsin Tel. Co. own the toll line jointly and each company retains all toll revenues originating on its own lines. The Western Wisconsin Tel. Co. charges all subscribers who desire toll line service a flat rate of $12.50 more per year than it charges subscribers who do not desire this service. For individual messages it charges the same toll rate as the petitioner. *Held:* We fail to see any unjust discrimination against the petitioner as charged in the petition. The respondent and the Western Wisconsin Tel. Co. were acting entirely within

their right in making the present apportionment of revenues between themselves and, so long as this apportionment does not result in prejudicing the rights of subscribers or patrons of either company, the action of the two companies in this matter is not subject to revision or modification by public authorities. Even where physical connection of lines is enforced under the statute, it is contemplated that the companies shall agree upon the apportionment of the joint tolls, and it is only in case of failure of agreement that the Commission has authority to make the apportionment. Moreover, in making the apportionment the Commission is bound both by statutory and by constitutional requirements to provide for such reasonable terms and conditions as will avoid the taking of property without compensation. Under the circumstances the apportionment of the toll revenues between the respondent and the Western Wisconsin Tel. Co. is no criterion for judging the reasonableness of charges exacted of a connecting company desiring the toll line facilities but having no proprietary interest in these facilities. The petition is dismissed. *Ettrick Tel. Co. v. La Crosse Tel. Co.* 25, 28.

Telephone service—Provision of "silent number" telephones not an unjust discrimination.

10. The Commission, on its own motion, investigated the use of the so-called "silent number phones" by the Wis. Tel. Co. in Milwaukee. The numbers of such telephones are not published in the directory and usual practice of the company is not to connect other parties with the silent number telephone unless the subscriber having the telephone directs the operator to make the connection. It is alleged in the informal complaint which led to the present investigation that this practice constitutes an unjust discrimination against subscribers who are thus refused connection. *Held:* The maintenance of silent number service cannot be regarded as an unjust discrimination on the part of the telephone company and there is no other ground upon which the practice can be condemned. It is true that there is an element of discrimination in the action of the individual who has the silent number service in giving his number to his friends or acquaintances and withholding it from the general public, but this is a matter which is left to the discretion of the individual. *In re Use of Silent Numbers by Wis. Tel. Co.* 587, 593.

11. The whole question with respect to the use of silent number telephones appears to be one of whether the action of the individual who has the silent number service in giving his number to his friends or acquaintances and withholding it from the general public, causes a discrimination by reason of which the telephone company should be ordered to refuse the silent number service. There is some element of discrimination here, but it seems to be rather a case in which the individual may determinine for himself the parties whom he wishes to have call him, just as he would determine for himself with what parties he would speak if everyone could call him. The telephone company acts as his agent in carrying out his wishes, and in so doing, it does not deprive other subscribers of any service of which they would not be deprived if the individual having the silent number service were to discontinue the telephone service entirely, or were to so locate his telephone that he would not get any incoming calls. *In re Use of Silent Numbers by Wis. Tel. Co.*, 587, 591–592.

DISTANCE TARIFF RATES.

See RATES—RAILWAY.

DIVISION OF JOINT RATES.

See RATES—RAILWAY.

DUAL BASIS OF CHARGES.

See RATES—RAILWAY.

DUPLICATION OF EQUIPMENT.

Public Utilities Law, scope and purpose of law with respect to duplication of telephone lines within the same territory, *see* PUBLIC UTILITIES LAW, 3.

Telephone utilities, duplication of equipment of established utility, in violation of law, *see* TELEPHONE UTILITIES, 7.

not ordinarily the remedy for excessive rates or inadequate service, *see* TELEPHONE UTILITIES, 6.

when permitted, *see* TELEPHONE UTILITIES, 5.

without authority from the Commission illegal, *see* TELEPHONE UTILITIES, 3, 7–8.

EDGING.

See WOOD.

ELECTRIC RAILWAYS.

See INTERURBAN RAILWAYS; STREET RAILWAYS.

ELECTRIC RATES.

See RATES—ELECTRIC.

ELECTRIC SIGNALS.

Installation of, *see* RAILROADS, 6–7, 10–11.

ELECTRIC UTILITIES.

Cost of service of electric utilities, determination of unit cost, *see* ACCOUNTING, 1–7, 12–14.

Depreciation, rate of depreciation of electric plant, *see* DEPRECIATION, 5–6.

Discrimination as between customers of electric utility, *see* DISCRIMINATION, 1–3.

Minimum charges for electric utilities, *see* MINIMUM CHARGES, 1–2.

ACCOUNTING.

See ACCOUNTING.

MUNICIPAL ACQUISITION—TERMS AND CONDITIONS OF SALE AND PURCHASE.

Compensation for property—Compensation determined by Commission in particular cases.

1. This is a proceeding to determine the compensation to be paid in the purchase of the property of the Manitowoc El. Lt. Co. by the city of Manitowoc. Valuations made by the engineering staff of the Commission and by the city are considered and compared in detail. The company submits no valuation of the property as a whole but attacks the reasonableness of the values placed on certain items in the valuation made by the Commission. Some of the land used in the operation of the utility is owned by a private individual, Mr. John Schuette. The city has agreed with Mr. Schuette to purchase part of this land and to

lease part, and also to lease certain equipment used in connection with the plant. The contention that the smoke stack and certain other equipment located on the land mentioned should be charged to a feed and flour mill to which the electric plant sells mechanical power, on the theory that, if it were not for the power supplied to this mill, the equipment in question would not have to be so large or extensive, is not sustained by the facts. It appears that all of this equipment is necessary to meet the maximum demands of the plant during the winter months, and that during the maximum peak demand no power is supplied to the mill. Some consideration must be given in fixing the fair value of the utility to the fact that continuous construction under contract may be less expensive than piecemeal construction, but it does not seem that this fact can be properly considered as an element in determining the cost of reproducing the physical plant. *Held:* The compensation to be paid to the electric light company and Mr. Schuette for the taking of property used and useful for the convenience of the public, exclusive of the stock and material on hand and additions made to the plant since Jan. 1, 1913, is $137,500, of which $600 is to be paid to Mr. Schuette upon delivery by him to the city of a deed to certain land owned by him but necessary to the operation of the utility. The city is ordered to pay the just compensation fixed within three months from date and, in addition, to pay to the company such price as may be agreed upon between the parties or, in the event that the parties are unable to agree, fixed by the Commission, for the material on hand at the date of the taking of the plant and for new additions made to the plant sine Jan. 1, 1913, with interest at 6 per cent per annum until the compensation is paid. The agreement entered into by the city with Mr. Schuette for the lease of certain land and equipment is approved. *In re Purchase Manitowoc El. Lt. Plant*, 452, 467.

OPERATION.

Requirements as to service and facilities—Adequacy of service.

2. "Every public service corporation is required by law to furnish adequate and efficient service to the public according to the development and state of the art at the time the service is performed, and to exact therefor only reasonable compensation. Thus, to fulfill its public duty, it must at all times keep and maintain its plant in a proper state of repair and in an efficient operating condition, adopt new inventions as they arise, make extensions and improvements of its plant when necessary and required for the convenience of the public, and continue its services without cessation whether profitable or unprofitable. It is by statute subject to public supervision as to the extent and quality of its service as well as to the charges it may lawfully exact therefor." (*Berend v. Wis. Tel. Co.* 1909, 4 W. R. C. R. 155.) *Madison G. & El. Co. v. C. & N. W. R. Co.* 409, 416.

3. The Commission, on its own motion, investigated the service of the Neshonoc Lt. & P. Co. in the village of West Salem and the town of Hamilton. In an order issued in a previous matter on Aug. 7, 1912, the Commission specified certain improvements which were to be made in the plant of the utility to enable the utility to comply with the requirements of the standards prescribed by the Commission for electric service. Since the issuance of this order the utility has accepted a number of applications for power service, solicited by engineers of the Commission for the purpose of developing a patronage sufficient to warrant the expenditure necessary to place the plant in the best serviceable condition, and it is therefore necessary that the required improvements be made as soon as possible. The engineers of the Commission recommend that the utility submit for approval complete plans for an hydro-electric power and light plant to be built at the site of the

present plant in such a manner as to allow for additional units to be installed, and for a new dam to replace the present dam when operating conditions warrant, and suggest certain specific improvements which should be made in the equipment of the plant. *Held:* The improvements recommended should be made. The utility is therefore ordered: (1) to submit for approval within three weeks complete plans and specifications for an hydro-electric power and light plant, as recommended by the engineers of the Commission; and (2) to have the said plant completed and the equipment recommended installed within six months after the approval of the plans and specifications. *In re Invest. Service Neshonoc Lt. & P. Co.* 637, 639.

4. The Commission, on its own motion, investigated the practice of the Dodgeville El. Lt. Co. with respect to compliance with the orders of the Commission establishing standards for gas and electric service (July 24, 1908, 2 W. R. C. R. 632 and Aug. 9, 1913, 12 W. R. C. R. 418). Inspections made at various times from March, 1909, to Dec., 1913, showed continued failure to fully comply with the first of these orders but an inspection made in Nov., 1912, indicated that the utility was at that time complying with all the requirements of the order. An inspection made on Jan. 3, 1914, however, showed that the service rendered by the utility does not entirely meet the requirements of adequate service as defined in the order of Aug. 9, 1913. It is ordered that the utility: (1) engage a competent, reliable engineer who thoroughly understands the needs of the utility's system, and notify the Commission of the securing of his services within 15 days after the serving of this order; (2) that plans and specifications covering new equipment and changes in the system be filed with the Commission within 30 days after the securing of the services of the said engineer; and (3) that the changes be made as promptly as possible, such work as can be begun before outdoor construction is possible to be started immediately after the plans and specifications submitted to the Commission are approved by it. Six months is deemed a sufficient time in which to comply with the standards of service included in this order. *In re Service Dodgevills El. Lt. Co.* 642, 645.

Requirements as to service and facilities—Appliances for the measurement of product or service—Duty of utility to provide meters.

5. It is clear that under the provisions of sec. 1797m—90 of the Public Utilities Law a utility cannot give a lower rate to a consumer who owns his meter than to another consumer whose meter is owned by the utility. That the divided ownership of parts of the equipment of public utilities shall cease is clearly contemplated. The management should be responsible for the installation and maintenance of the whole of the equipment, which means undoubtedly that both private and municipal plants must acquire, by purchase or lease unless excused by the Commission, all meters used in connection with their respective works, and cease charging a meter rental. *In re Appl. Neshkoro Lt. & P. Co.* 52, 54.

6. It is the duty of the utility, the Commission has ruled, to sell to all consumers through meters unless exempted from so doing by the Commission. *In re Appl. Neshkoro Lt. & P. Co.* 52, 64.

7. In some instances in the present case it appears that meters have been out of working order and that the meter rates have been applied to an estimated consumption of current. These meters should be promptly repaired and the regular rates applied. *In re Appl. Endeavor El. Lt. & P. Co.* 448, 451.

Requirements as to service and facilities—Appliances for the measurement of product or service—Station meters.

8. In connection with the application of the Village of Withee for authority to increase its electric rates it is deemed advisable, in view of the inadequate records kept by the utility, to require the utility to install a station watt-hour meter to measure the output of the plant. *In re Appl. Village of Withee*, 704, 710.

Requirements as to service and facilities—Refusal of service for nonpayment of bills rendered.

9. The Commission, on its own motion, investigated the refusal of the Madison G. & El. Co. to furnish gas and electric service to F. M. Wylie. Mr. Wylie was in arrears on certain bills rendered him during the course of several years for past service, part of the amount of the bills being in dispute, and the company, upon his removal to a new place of residence, refused to furnish him service unless he would pay this past indebtedness. Mr. Wylie admits being in arrears 52 cts. for service rendered him since the making by him of a special deposit of $5.00, required in accordance with a rule of the company as security for the payment of bills due the company, prior to receiving service at his last place of residence. The company contends that the deposit may be applied to the payment not only of the 52 cts. but also of indebtedness incurred prior to the making of the deposit, and that Mr. Wylie may be required to liquidate in full any remaining indebtedness and to make a new deposit before the company can be required to serve him at his new place of residence. *Held:* 1. A public utility may refuse to furnish service unless the charges for such service are prepaid, or a sum of money sufficient to secure the payment for services rendered during any future interval for which credit is extended, or a bond to secure such payment is deposited with the utility, but the utility may not condition the furnishing of service upon the liquidation of indebtedness to the utility for past service. 2. A public utility which requires a deposit of money to secure the payment of bills for future service before rendering service to an applicant cannot apply the deposit to the payment of indebtedness previously incurred by the applicant, but must look for its remedies to the courts of law. 3. The applicant's contract with the utility in the instant case permits the application of his deposit only to the payment of indebtedness incurred by him after the contract became effective. It is ordered that upon payment by F. M. Wylie of all sums due to the Madison G. & El. Co. for gas furnished him at his last place of residence the company accept his application and serve him with gas and electric current at his present place of residence and retain the $5.00 now held by it as security for the payment of bills for such service when they become due, according to the published rules and regulations of the company. *In re Refusal of Service by Madison G. & El. Co.* 518, 522–524.

RATES.

See RATES—ELECTRIC.

VALUATION.

See VALUATION.

ENGINEERING.

Cost of engineering as element in the valuation of public utilities, *see* VALUATION, 8.

EQUIPMENT.

Equipment of street railway, allowance for cost of maintenance of, *see* MAINTENANCE OF EQUIPMENT, 1.

EXORBITANT RATE.

See RATES.

EXPENSES.

Apportionment of expenses, *see* ACCOUNTING, 1–6, 8–15, 19–22.
Prorating of expenses, *see* ACCOUNTING, 7, 24.

EXCELSIOR.

Refund on shipment, Rice Lake to Waukesha, *see* RATES—RAILWAY, 25; REPARATION, 19.

EXCHANGE EXPENSES.

Apportionment of exchange expenses in the determination of unit costs for telephone utilities, *see* ACCOUNTING, 19.

EXCHANGE RADIUS.

Exchange radius for telephone utility, determination of, *see* RATES—TELEPHONE, 1, 3.

EXCURSION TRAINS.

See TRAIN SERVICE.

EXPRESS COMPANIES.

Discrimination as between customers of express companies, *see* DISCRIMINATION, 4.

OPERATION.

Requirements with respect to delivery in particular cases.

1. The petitioner alleges that the respondent unjustly discriminates against it by refusing to deliver express to it at its offices which are located a few hundred feet beyond the corporate limits of the city of Merrill. The respondent delivers express to any point within the city limits, although these limits extend beyond the free delivery district of the United States postoffice department which is fixed by sec. 1798 of the statutes as the minimum area in which express companies must call for and deliver express, but does not extend this service to any person or corporation located outside the city limits. *Held:* There must be some limits to the area within which express companies may be required to deliver express and the boundaries of the municipality are most satisfactory for this purpose. *Strauss v. American Exp. Co.* 1909, 3 W. R. C. R. 556. The complaint is dismissed. *Heineman Lbr. Co. v. Wells Fargo Exp. Co.* 594, 596.

RATES.

See RATES—EXPRESS.

EXTENSIONS.

Extension of telephone lines, *see* TELEPHONE UTILITIES, 1–13.

FARE COLLECTORS.

Street railways, fare collectors to improve service of, *see* STREET RAILWAYS, 18.

FARES.

See RATES—INTERURBAN; RATES—STREET RAILWAY.

FARM TRUCKS.

Rates, reasonableness of, Wisconsin points, *see* RATES—RAILWAY, 26.

FARM WAGONS.

Rates, reasonableness of, Wisconsin points, *see* RATES—RAILWAY, 26.

FIXED EXPENSES.

Apportionment of fixed or capacity expenses, *see* ACCOUNTING, 1–6.
Prorating of fixed or capacity expenses, *see* ACCOUNTING, 7, 24.

FLAGMAN.

Flagman, for protection of railroad crossing, *see* RAILROADS, 6–7, 9–10, 12.

FLAT RATES.

Discrimination due to flat rates, *see* DISCRIMINATION, 2.
Electric rates, flat rates for electric utility, *see* RATES—ELECTRIC, 1–2.

FRANCHISES.

Telephone utilities, authority to operate a telephone utility derived from the state and not the municipality, *see* TELEPHONE UTILITIES, 2.

Right to occupy streets for interurban railway service.

1. The petitioner alleges that the stopping by the respondent companies of its cars at certain designated points only instead of at all street intersections results in inadequate street railway service and amounts, in effect, to mere interurban railway service. The petitioner further alleges that it has never granted to any corporation, neither the original grantee nor the present assignees, the right to operate an interurban railway system within its limits, and that the present operation of interurban cars within the city of Waukesha is without the permission of the city or any authority or instruction from the Commission. It prays, therefore, that the respondents be compelled to furnish street railway service as distinguished from interurban service, as required by the terms of their franchise. *Held:* The right of the respondents to operate interurban cars upon the streets of Waukesha is a judicial question and not within the power of the Commission to determine, but so long as the respondents continue to render such service, it is subject to the jurisdiction and regulation of the Commission. *City of Waukesha v. T. M. E. R. & L. Co. et al.* 89, 90, 97.

FREE SERVICE LIMITS.

Express companies, pick-up and delivery service, free service limits, *see* EXPRESS COMPANIES, 1; PICK-UP AND DELIVERY SERVICE, 1.

FREIGHT CARS.

"Spotting" of freight cars on public street, *see* SWITCH CONNECTIONS, 7.

FREIGHT RATES.

See RATES—RAILWAY.

FREIGHT SERVICE.

See TRAIN SERVICE.

FUEL WOOD.

See WOOD.

GAS RATES.

See RATES—GAS.

GAS UTILITIES.

Cost of service of gas utilities, determination of unit costs, *see* ACCOUNTING, 8–13.
Depreciation, rate of depreciation of gas plant, *see* DEPRECIATION, 7.
Minimum charges for gas utilities, *see* MINIMUM CHARGES, 3.

OPERATION.

Requirements as to service and facilities—Adequacy of service.

1. Although no formal complaint is made in the instant case with respect to the gas service, verbal statements made to the Commission during the investigation made it appear advisable to investigate certain matters connected with the operation of the gas plant. The statements referred to allege that under the system of operation now in force both the pressure and the quality of the gas have varied and the gas supply has failed completely at times. The plant is a gasoline gas plant. *Held:* It is not practicable to establish standards for service for gasoline gas plants. Elements which go to make up adequate service; reliability, uniformity, safety, convenience and intelligent utilization, are almost impossible of realization with this type of plant. Under the circumstances no recommendations with respect to service are made. *Vil. of Sharon v. United Heat, L. & P. Co.* 1, 4–7.

2. "Every public service corporation is required by law to furnish adequate and efficient service to the public according to the development and state of the art at the time the service is performed, and to exact therefor only reasonable compensation. Thus, to fulfill its public duty, it must at all times keep and maintain its plant in a proper state of repair and in an efficient operating condition, adopt new inventions as they arise, make extensions and improvements of its plant when necessary and required for the convenience of the public, and continue its services without cessation whether profitable or unprofitable. It is by statute subject to public supervision as to the extent and quality of its service as well as to the charges it may lawfully exact therefor." (*Berend v. Wis. Tel. Co.* 1909, 4 W. R. C. R. 155.) *Madison G. & El. Co. v. C. & N. W. R. Co.* 409, 416.

Requirements as to service and facilities—Refusal of service for nonpayment of bills rendered.

3. The Commission, on its own motion, investigated the refusal of the Madison G. & El. Co. to furnish gas and electric service to F. M.

Wylie. Mr. Wylie was in arrears on certain bills rendered him during the course of several years for past service, part of the amount of the bills being in dispute, and the company, upon his removal to a new place of residence, refused to furnish him service unless he would pay this past indebtedness. Mr. Wylie admits being in arrears 52 cts. for service rendered him since the making by him of a special deposit of $5.00, required in accordance with a rule of the company as security for the payment of bills due the company, prior to receiving service at his last place of residence. The company contends that the deposit may be applied to the payment not only of the 52 cts. but also of indebtedness incurred prior to the making of the deposit, and that Mr. Wylie may be required to liquidate in full any remaining indebtedness and to make a new deposit before the company can be required to serve him at his new place of residence. *Held:* 1. A public utility may refuse to furnish service unless the charges for such service are prepaid, or a sum of money sufficient to secure the payment for services rendered during any future interval for which credit is extended, or a bond to secure such payment is deposited with the utility, but the utility may not condition the furnishing of service upon the liquidation of indebtedness to the utility for past service. 2. A public utility which requires a deposit of money to secure the payment of bills for future service before rendering service to an applicant cannot apply the deposit to the payment of indebtedness previously incurred by the applicant, but must look for its remedies to the courts of law. 3. The applicant's contract with the utility in the instant case permits the application of his deposit only to the payment of indebtedness incurred by him after the contract became effective. It is ordered that upon payment by F. M. Wylie of all sums due to the Madison G. & El. Co. for gas furnished him at his last place of residence the company accept his application and serve him with gas and electric current at his present place of residence and retain the $5.00 now held by it as security for the payment of bills for such service when they become due, according to the published rules and regulations of the company. *In re Refusal of Service by Madison G. & El. Co.* 518, 522–524.

Standards of service for gasoline gas plants.

4. The Commission has established standards for gas and electric service in Wisconsin but it has not been considered practicable to establish such standards for gasoline gas plants. Elements which go to make up adequate service: reliability, uniformity, safety, convenience, and intelligent utilization, are almost impossible of realization with this type of plant. The Commission has stated: "Adequate service is not necessarily the best service which it is possible to give, but rather the best service which can be given with due regard to economy to the consumer and to the company." (*In re Standards for Gas and Electric Service*, 1908, 2 W. R. C. R. 632, 642.) *Vil. of Sharon v. United Heat, L. & P. Co.* 1, 5.

RATES.

See RATES—GAS.

VALUATION.

See VALUATION.

GASOLINE ENGINE TRUCKS.

Rates, reasonableness of, Wisconsin points, *see* RATES—RAILWAY, 26.

GENERAL EXPENSES.

Apportionment of general expenses in the determination of unit costs for electric utilities, *see* ACCOUNTING, 12.
for joint (electric, gas and heating) utilities, *see* ACCOUNTING, 12.

GENERAL AND UNDISTRIBUTED EXPENSES.

As element considered in making rates for electric utilities, *see* RATES—ELECTRIC, 6.

GOING VALUE.

As element in the valuation of public utilities, *see* VALUATION, 2–3, 11.
Method of appraising going value, *see* VALUATION, 11–12.

GRADATION OF RATES.

See RATES.

GRADE CROSSINGS.

See INTERURBAN RAILWAYS; RAILROADS; STREET RAILWAYS.

GRAIN.

Reasonableness of rate and refund on shipments, Richfield to Milwaukee, *see* RATES—RAILWAY, 28; REPARATION, 16.
Wisconsin points on the C. & N. W. Ry. to Janesville, *see* RATES—RAILWAY, 29; REPARATION, 21.

GRANITE BLOCKS.

Refund on shipments, Ablemans to Milwaukee, *see* RATES—RAILWAY, 30; REPARATION, 25.

GRAVEL.

See GRAVEL AND CRUSHED STONE; SAND AND GRAVEL; STONE AND GRAVEL.

GRAVEL AND CRUSHED STONE.

Refund on shipments, Waukesha to various Wisconsin points, *see* RATES—RAILWAY, 31; REPARATION, 14.

GREATEST CHARGE.

Application to mixed carloads of tile and brick of either the rate and minimum on brick or the rate and minimum on tile in order to produce the greatest charge, *see* RATES—RAILWAY, 47.

GROUND WOOD PULP.

See PULP.

GROUP OR BLANKET RATES.

See RATES—RAILWAY.

HAY.

Refund on shipments, Wisconsin points on the C. & N. W. Ry., *see* RATES—RAILWAY, 32; REPARATION, 12.

HEADWAY.

Street railways, requirements as to service and facilities, adequacy of service, minimum headway, *see* STREET RAILWAYS, 18–19.

HEATING RATES.

See RATES—HEATING.

HEATING UTILITIES.

RATES.

See RATES—HEATING.

VALUATION.

See VALUATION.

HIGHWAYS.

Crossing by interurban railways, *see* INTERURBAN RAILWAYS, 1.
Crossing by railroads, *see* RAILROADS, 1–20.
Improvement of highways for protection of railroad crossing, *see* RAILROADS, 11.
Relocation of highways for protection or elimination of railroad crossing, *see* RAILROADS, 5, 8.

ILLUMINATED SIGNS.

Installation of, for protection of railway crossing, *see* RAILROADS, 6–7, 10–11.

INDETERMINATE PERMIT.

Indeterminate permit not absolutely exclusive.

1. Companies holding indeterminate permits, whether for single or joint utilities, have assumed the responsibility for the highest reasonable development of their business as well as for adequate distribution and sale. For this reason the Public Utilities Law does not make an indeterminate permit entirely exclusive, but allows this Commission to grant similar rights to competing plants where conditions warrant the establishment of such competing plants. *City of Waukesha v. Waukesha G. & El. Co.* 100, 109.

Obligation of holder for reasonable development of the business. *See ante*, 1.

INDIRECT EXPENSES.

As element considered in making rates for water utilities, *see* RATES—WATER, 1–3.

INDUSTRIAL TRACKS.

See SWITCH CONNECTIONS.

INJURIES AND DAMAGES.

Allowance for reserve for injuries and damages.

1. In the instant case an allowance of 4.5 per cent of the gross earnings for 1912 and 5 per cent for the first six months of 1913 is deemed adequate for the reserve for injuries and damages. *In re Service of T. M. E. R. & L. Co. in Milwaukee*, 178, 225–226.

INTANGIBLE VALUE.

See VALUATION.

INTEREST.

See also RETURN.

Apportionment of interest in the determination of unit costs for gas utilities, *see* ACCOUNTING, 9, 11.

As element considered in the determination of minimum charges for electric utilities, *see* MINIMUM CHARGES, 1.

in making rates for water utilities, *see* RATES—WATER, 1–2.

As matter considered in determining reasonableness of rates for street railways, *see* RATES—STREET RAILWAY, 7.

Interest during construction as element in the valuation of public utilities, *see* VALUATION, 8.

INTERSTATE COMMERCE COMMISSION.

Block express rates between Wisconsin points ordered reduced to an equality with express rates fixed by the interstate commerce commission when they exceed the latter, *see* RATES—EXPRESS, 1.

INTERURBAN RAILWAYS.

See also STREET RAILWAYS.

Discrimination as between passengers, *see* DISCRIMINATION, 6.

Joint use of tracks with street railway, *see* STREET RAILWAYS, 3–16.

CONSTRUCTION, MAINTENANCE AND EQUIPMENT.

Adequacy of equipment—Construction of cars.
See post, 2.

Crossings—Railroad by highway—Protection of.

1. The Commission, on its own motion, investigated three highway crossings near Mukwonago, Waukesha county, located two on the M. St. P. & S. S. M. Ry. and one on the line of the M. L. H. & T. Co. Both railway companies approve of a plan to eliminate the Rochester road crossing on the M. St. P. & S. S. M. Ry. and to protect the remaining crossing, at Front st. on the M. L. H. & T. Co.'s line by diverting the Rochester road into Front st. and enlarging the Front st. subway, first, to accommodate the increased traffic and, second, to provide a better view of the interurban cars. The M. St. P. & S. S. M. Ry. Co. is willing to bear the entire expense of the proposed alterations. The village authorities oppose this plan and request that a subway at the Rochester road crossing be ordered. *Held:* Each of the two crossings under consideration is dangerous. The interests of all will be best subserved by relocating the highway. The M. St. P. & S. S. M. Ry. Co. is therefore ordered to construct, and maintain for a period of three years, a suitable highway connecting the Rochester road and Front st., to acquire the land necessary therefor, and to enlarge the subway on Front st., plans to be submitted. The portion of the Rochester road lying within the railway right of way is to be closed. *In re Crossings near Mukwonago*, 32, 37.

Crossings—Railroad by highway—Relocation of highway.
See ante, 1.

Passenger cars adequacy of.

2. The petitioner alleges that the cars used by the respondent in the city of Waukesha are inadequate and asks that the respondent be re-

quired to provide cars which will meet the needs of traffic. *Held:* It would be impracticable to abandon the cars in use and substitute new cars in their places. The respondents should, however, remedy the defects in the present equipment when ordering or constructing new equipment. *City of Waukesha v. T. M. E. R. & L. Co. et al.* 89, 98.

Station facilities, construction of—Location of waiting station in cities.

3. On interurban lines it is impossible to construct waiting stations at every stopping point within cities. The cost of acquiring the necessary land and building structures would be so great as to make the expense of rendering such service prohibitive; furthermore, the convenience of the public may require the changing of stopping points from time to time, and in such event new stations would have to be erected and old ones abandoned. *City of Waukesha v. T. M. E. R. & L. Co. et al.* 89, 98–99.

OPERATION.

Requirements as to service and facilities—Adequacy of service.

4. The petitioner alleges that the limitation of stops made by the cars of the respondent companies within the city of Waukesha results in inadequate street railway service and in danger to public travel at street intersections. In the past the cars have stopped at all street intersections to take on and let off passengers, but under a new schedule which, the respondents allege, was adopted for the purpose of improving the service, the cars stop only at certain designated points. The petitioner alleges that the franchise under which the respondents use the streets in Waukesha requires them to furnish street railway service as distinguished from interurban service and that they have no right to operate interurban cars through the city. *Held:* 1. The right of respondents to operate interurban cars upon the streets of Waukesha is a judicial question and not within the power of the Commission to determine, but so long as the respondents render such service it is subject to the supervision and regulation of the Commission. In view both of the requirements of the interurban service and the franchise obligations which the respondents may have assumed with respect to the rendering of street railway service, it is deemed advisable to tentatively increase the number of stops made within the city of Waukesha. If it is found impossible under the new schedule to maintain the running time between Milwaukee and Watertown it will be necessary for the Commission to reduce the number of stops. The respondents are therefore ordered to stop their cars in the city of Waukesha to receive and discharge passengers at points designated by the Commission. *City of Waukesha v. T. M. E. R. & L. Co.* 89, 97.

Requirements as to service and facilities—Adequacy of service—Frequency of stops.

5. It is our opinion that to compel the respondents to reëstablish their former practice of stopping at all street intersections within the city of Waukesha would probably result in extending the running time of their cars between the Milwaukee terminal and Watertown. However, in view of the fact that there are no local cars operated within the city of Waukesha, we deem it advisable that certain additional stops should be made in the city, unless, after a fair trial, it should appear that the present schedule of time between Milwaukee and Waukesha or Watertown can not be maintained because of these additional stops, in which case it would be necessary for the Commission to reduce the number of stops. Good practice upon interurban railroads re-

quires certain definite stops or stations along the line for the receiving and discharging of passengers. Unless this plan is followed, the usefulness of the service is destroyed and the public as a whole is inconvenienced. (*Racine v. T. M. E. R. & L. Co.* 12 W. R. C. R. 388.) *City of Waukesha v. T. M. E. R. & L. Co.* 89, 97–98.

Requirements as to service and facilities—Adequacy of service—Limitation of stops.
See ante, 4–5.

JOINT RATES.

See RATES—RAILWAY.

JOINT USE.

Street railway and interurban railway, joint use of tracks, *see* STREET RAILWAYS, 3–16.
Street railways, joint use of tracks, terms and conditions of, *see* STREET RAILWAYS, 5–15.
terms and conditions of, jurisdiction of Commission, *see* RAILROAD COMMISSION, 13.
Telephone utilities, physical connection, terms and conditions of joint use, *see* TELEPHONE UTILITIES, 16, 19.
terms and conditions of joint use, *see* RATES—TELEPHONE, 4, 6–9.

JUDICIAL QUESTIONS.

Right of company to operate interurban cars under a street railway franchise a judicial question and not within the jurisdiction of the Commission, *see* RAILROAD COMMISSION, 9.

JURISDICTION.

Commission, jurisdiction of, *see* RAILROAD COMMISSION.

KILN WOOD.

See WOOD.

LAND.

Method of appraising land, *see* VALUATION, 13.

LAWFUL RATE.

See SCHEDULES FOR UTILITIES.

LENGTH OF HAUL.

As element considered in making rates for railways, *see* RATES—RAILWAYS, 9.

LIFE OF PAVING.

Life of paving constructed by street railway company, *see* DEPRECIATION, 8.

LIFE OF PUBLIC UTILITY PLANT.

See DEPRECIATION.

LIFE OF STREET RAILWAY PLANT.

See DEPRECIATION.

LIME.

Rates, reduction of, Rockfield to Wisconsin points designated on the C. & N. W. Ry., *see* RATES—RAILWAY, 33.

LIMESTONE.

Rates, establishment of joint rates on limestone for agricultural purposes, Waukesha to Wisconsin points, *see* RATES—RAILWAY, 34.

LIMITATION OF STOPS.

Limitation of stops within a city by cars of interurban railway, *see* INTERURBAN RAILWAYS, 4–5; STREET RAILWAYS, 17.

LINE HAUL REVENUE.

Absorption of switching charges, *see* RATES—RAILWAY, 23, 29, 31, 45, 51.

LOADING.

Minimum carload weights, *see* WEIGHTS.

LOCAL RATES.

See RATES.

LOGGING TRUCKS.

Rates, reasonableness of, Wisconsin points, *see* RATES—RAILWAY, 26.

LOGS.

Demurrage charges, reasonableness of, on shipments, *see* RATES—RAILWAY, 24.

LONG DISTANCE RATES.

See RATES—RAILWAY; RATES—TELEPHONE.

LONG HAUL.

Length of haul as element considered in making rates for railways; *see* RATES—RAILWAY, 9.

LUMBER.

Reasonableness of rates and refunds on shipments, Wausau to New London, *see* RATES—RAILWAY, 35; REPARATION, 29.

MAINTENANCE OF EQUIPMENT.

Allowance for cost of maintenance of equipment of street railway.

1. In the instant case an allowance of a unit cost of 1.8 cts. per car-mile is considered as the maximum amount which can justly be allowed for the cost of maintenance of equipment under normal conditions. *In re Service of T. M. E. R. & L. Co. in Milwaukee*, 178, 219–225.

MAINTENANCE OF WAY EXPENSES.

Apportionment of maintenance of way expenses in the determination of unit costs for street railways, *see* ACCOUNTING, 15.

MAKING RATES.

See RATES.

MANAGEMENT.

Street railways, schedule making a managerial detail for the street railway company, *see* STREET RAILWAYS, 20.
Wages of management as element considered in making rates for toll bridges, *see* RATES—TOLL BRIDGE, 1.

MESSAGE RATES.

See RATES—TELEPHONE.

METER RATES.

Discrimination due to straight meter rates, *see* DISCRIMINATION, 3.
Electric utility, meter rates for electric utility, *see* RATES—ELECTRIC, 13.

METERS.

Discrimination in rates on account of ownership of meters, prohibited under Public Utilities Law, *see* DISCRIMINATION, 1; REBATES OR CONCESSIONS, 1.
Duty of utility to provide meters, *see* ELECTRIC UTILITIES, 5–7.

MILLING IN TRANSIT RATES.

See RATES—RAILWAY.

MINIMUM CARLOAD WEIGHTS.

See WEIGHTS.

MINIMUM CHARGES.

ELECTRIC UTILITIES.

Determination of minimum charge.

1. The minimum charge should be sufficient to cover those operating expenses which vary with the number of consumers and which seem to have little relation to the amount of current sold, such as meter collection and consumer's premises expenses. Allowance should also be made for taxes, depreciation and interest on the investment in consumers' meters and services and for the cost of current likely to be used under the minimum charge. *In re Appl. Darlington El. Lt. & W. P. Co.* 344, 356.

2. We feel that it is the duty of every public service company to extend its service to reach as many consumers as possible. Some of these consumers may not be as profitable as others, yet so long as they are not a burden and do not actually hinder the proper development of the utility, they should be offered a minimum charge that will enable them to enjoy the convenience of electricity in their homes. *In re Invest. Mosinee El. Lt. & P. Co.* 712, 719.

GAS UTILITIES.

Determination of minimum charge.

3. The minimum bill should be so constructed as to cover (1) consumer expense and (2) the cost of gas used in small quantities. *Yanko et al. v. Portage American Gas Co.* 136, 143.

MINIMUM LOADING REQUIREMENT.

See WEIGHTS.

MINIMUM RATES.

See RATES.

MINIMUM WEIGHTS.

See WEIGHTS.

MONOPOLY.

Prevention of monopoly of natural resource as element considered in making railway rates, *see* RATES—RAILWAY, 15–16.
as matter considered in determining reasonableness of railway rates, *see* RATES—RAILWAY, 15–16.

MOVEMENT EXPENSES.

As element considered in making rates for railways, *see* RATES—RAILWAY, 12.

MUNICIPAL ACQUISITION OF PUBLIC UTILITIES.

Compensation for property of public utilities in case of municipal acquisition, *see* ELECTRIC UTILITIES, 1; WATER UTILITIES, 2, 3.
in case of municipal acquisition, jurisdiction of Commission, *see* WATER UTILITIES, 4.

MUNICIPALITIES.

Elections for municipal acquisition of public utility, validity of, *see* WATER UTILITIES, 4.
Electric utilities, municipal acquisition of, *see* ELECTRIC UTILITIES, 1.
Franchise from municipality granted to telephone company, authority to operate a telephone utility derived from the state and not the municipality, *see* TELEPHONE UTILITIES, 2.
Indebtedness, capacity of city to incur, *see* WATER UTILITIES, 4.
Municipal council, procedure upon municipal acquisition of public utility, regularity of, *see* WATER UTILITIES, 4.
Public utilities, municipal acquisition of, *see* ELECTRIC UTILITIES, 1; WATER UTILITIES, 2–4.
municipal acquisition of, action of municipal council, regularity, capacity of municipality to incur indebtedness, *see* WATER UTILITIES, 4.
municipal acquisition of, action of municipal council, regularity of action, *see* WATER UTILITIES, 4.
Water utilities, municipal acquisition of, *see* WATER UTILITIES, 2–4.

NAVIGABLE WATERS.

Jurisdiction of Commission over river improvements, *see* RAILROAD COMMISSION.

REGULATION OF LEVEL AND FLOW OF WATER.

River improvements—Dredging.

1. The petitioners allege that the respondent, by dredging the Rock river in Dodge county below township 13, is changing the course, lowering the level and destroying the headwaters and navigation of the river and draining out the lake which forms its headwaters, thereby destroying the hunting, boating and fishing on the river and causing the river to become stagnant, and that all of these acts are unlawful and the cause of great injury and damage to the petitioners. The respondent is engaged in constructing a system of ditches for the purpose of draining the Horicon Marsh and, in furtherance of his plan, is deepening, widening and straightening the channel of the Rock river in the city of Horicon under authority granted in an ordinance passed by the city council. Investigations were made on the ground, by engineers employed by the Commission, for the purpose of ascertaining the present and probable future effects of the work undertaken by the respondent. The Commission has power to regulate all river improvements so as to conserve all public rights in the rivers, promote the improvement of navigation and protect life, health and property, but has no jurisdiction over the authorization of contractors to do work or over their dealings with private parties. *Held:* 1. The drainage work in question will insure deeper water in the river at Horicon at all times and thereby improve navigation. 2. Although the current in the river at Horicon may become extremely slow at times no disagreeable or unsanitary condition will result. 3. In view of the benefits which will accrue through the increased farming area tributary to Horicon and Mayville, the fact that the river may be made unsightly at some points in Horicon and the fact that the fishing and hunting interest on the marsh will be damaged, will not justify the condemnation of the project undertaken by the respondent as injurious to public rights or public safety. The petition is therefore dismissed. *Freeholders etc. of Dodge County v. McWilliams*, 603, 607.

NON-DUPLICATION.

See also DUPLICATION OF EQUIPMENT.

Telephone utilities, extension of lines into municipalities in which another utility is already engaged in furnishing local service, *see* TELEPHONE UTILITIES, 5–8.

extension of lines, public convenience and necessity of, *see* TELEPHONE UTILITIES, 9–13.

physical connection, terms and conditions of joint use, *see* TELEPHONE UTILITIES, 16–17, 19.

NON-RUSH PERIODS.

Street railways, requirements as to service and facilities, adequacy of service, seating capacity of cars during non-rush periods, *see* STREET RAILWAYS, 21.

NORMAL COSTS.

As matter considered in determining reasonableness of electric rates, *see* RATES—ELECTRIC, 21.

OBSOLETE EQUIPMENT.

As matter considered in valuation of public utilities, *see* VALUATION, 14–18.

OBSTRUCTIONS TO VIEW.

Removal of obstruction to view for protection of railway crossings, *see* RAILROADS, 9–11.

OIL GAS.

Standards of service for oil gas, *see* GAS UTILITIES, 4.

OPERATION OF TRAINS.

See TRAIN SERVICE.

ORGANIZATION.

Nature of organization of public utility company as a cause of inadequate service, *see* TELEPHONE UTILITIES, 23.

ORIGINAL COST.

As element in valuation of public utilities, *see* VALUATION, 10.

OUTPUT COSTS.

As element considered in making rates for electric utilities, *see* RATES —ELECTRIC, 7–12.
for gas utilities, *see* RATES—GAS, 1–2.
for heating utilities, *see* RATES—HEATING, 1.
for water utilities, *see* RATES—WATER, 1–4.

OUTPUT EXPENSES.

Apportionment of output expenses in the determination of unit costs for electric utilities, *see* ACCOUNTING, 1–6.
for gas utilities, *see* ACCOUNTING, 8–11.
Prorating of output expenses in the determination of unit costs for electric utilities, *see* ACCOUNTING, 7.
for water utilities, *see* ACCOUNTING, 24.

OVERCHARGES.

See REPARATION.

OVERHEAD EXPENSES.

Overhead expenses during construction as element in the valuation of public utilities, *see* VALUATION, 8.

PARTIES TO ACTION.

Commission without authority to decide upon the merits of complaints against lawful charges unless such complaints are brought by the person aggrieved, *see* RAILROAD COMMISSION, 2; RATES—RAILWAY, 35.
Complaint of carrier dismissed on ground that the successors to the property and rights of the petitioner had not signified their intention of becoming parties to the action, *see* RATES—RAILWAY, 3.

PASSENGER CARS.

PASSENGER SERVICE.

See TRAIN SERVICE.

PASSENGERS.

PAVING.

PAVING BLOCKS.

See STONE PAVING BLOCKS.

PAYMENT OF RATES.

PENALTIES.

PHYSICAL CONNECTION.

PHYSICAL PROPERTY.

PICK-UP AND DELIVERY SERVICE.

Express companies, pick-up and delivery service—Free service limits.

1. Sec. 1798 of the statutes fixes the free delivery district of the United States post-office department as the minimum area in which express companies must call for and deliver express. *Heineman Lbr. Co. v. Wells Fargo Exp. Co.*, 594, 596.

POWER RATES.

See RATES—ELECTRIC.

PRACTICABILITY.

Railroad, practicability of union station, *see* STATION FACILITIES, 12.

PREFERENCE OR PREJUDICE.

See DISCRIMINATION.

PRICES.

Unit prices in determination of value of public utilities, *see* VALUATION, 15, 19.

PROCEDURE.

See also RAILROAD COMMISSION.

PROCEEDINGS BEFORE COMMISSION.

Action on complaint against utility rates not to be withheld because of intention of utility to present a new schedule at some future date.

1. The Commission cannot withhold action upon a complaint with respect to rates charged by the lessee of a utility plant merely because it is the intention of the owner of the utility plant to present another schedule of rates at some future date when he reassumes control of the property. *In re Appl. Village of Withee*, 704, 706.

Petition by individuals for separation of grades at a railway crossing.

2. Sec. 1797—12e of the statutes requires a petition for a separation of grades to be lodged by the common council of a city, the village board of a village, the town board of a town or by a railway company, and the Commission has no jurisdiction in such proceedings when instituted by an individual. *Rueckert et al. v. C. M. & St. P. R. Co.* 749, 750.

PROFITS.

See also RETURN.

Interest and profits as matter considered in determining reasonableness of rates for street railways, *see* RATES—STREET RAILWAY, 7.

PRORATING OF EXPENSES.

Prorating of expenses in the determination of unit costs for electric utilities, *see* ACCOUNTING, 7.

for water utilities, *see* ACCOUNTING, 24.

PUBLIC CONVENIENCE AND NECESSITY.

See also CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY.

Railroad, public convenience and necessity of union station, *see* STATION FACILITIES, 12.

Telephone utilities, extension of lines, public convenience and necessity, *see* TELEPHONE UTILITIES, 5, 9–13.

physical connection for public convenience and necessity, *see* TELEPHONE UTILITIES, 16–18.

PUBLIC CORPORATIONS.

See MUNICIPALITIES.

PUBLIC POLICY.

Public policy with respect to prevention of monopoly of natural resource as element considered in making railway rates, *see* RATES —RAILWAY, 15–16.

as matter considered in determining reasonableness of railway rates, *see* RATES—RAILWAY, 15–16.

PUBLIC SERVICE CORPORATIONS.

See ELECTRIC UTILITIES; GAS UTILITIES; HEATING UTILITIES; INTERURBAN RAILWAYS; RAILROADS; STREET RAILWAYS; TELEPHONE UTILITIES; TOLL BRIDGES; WATER UTILITIES.

PUBLIC STREET.

See STREET.

PUBLIC UTILITIES.

IN GENERAL.

Investments—Action of Commission with respect to.

1. It devolves upon the Commission to regard the demand for a reasonable return upon actual investment and for services rendered on the part of the utility, as fundamental in establishing and maintaining adequate service for the community—on the assumption, always, that ordinary intelligence and honesty have been shown in establishing the utility. More than the welfare of any given utility or community under consideration is involved in this. If the principle were unwisely disregarded in any one case, it would be an effectual bar to the securing of funds to develop new utilities or improve existing ones throughout the entire state. *In re Appl. Darlington El. Lt. & P. Co.* 344, 346.

CONTROL AND REGULATION OF PUBLIC UTILITIES.

Who are public utilities—Electric light company determined to be public utility.

2. The city of Darlington opposes the application for an increase in rates in the instant case upon the ground, among others, that the applicant is not a public utility. *Held:* The applicant is a public utility and subject to the provisions of the Public Utilities Law. *In re Appl. Darlington El. Lt. & W. P. Co.* 344, 349.

PUBLIC UTILITIES LAW.

CONSTRUCTION OF LAW.

With respect to extension of telephone lines.

1. The only action required of this Commission by the law in cases involving the duplication of telephone lines within the same territory by the extension of new lines, is a finding that public convenience and necessity do not require the proposed extension. Where the Commission does not make such a finding, the statute itself operates to authorize the extension. *In re Proposed Extension Owen Tel. Co.* 630, 631.

SCOPE AND PURPOSE OF LAW.

In general.

2. The purpose of the Public Utilities Law, which gives the Commission authority over public utilities, is to insure the communities as such and to the people who compose them, adequate service at reasonable rates from those corporations or individuals whom the state or the community has by grants of special privileges commissioned to perform such services. *In re Appl. Darlington El. Lt. & W. P. Co.* 344, 345.

With respect to duplication of telephone lines within the same territory.

3. Unnecessary duplication of telephone lines within the same territory was sought to be avoided when ch. 610 of the laws of 1913 (sec. 1797m—74 of the statutes) was enacted. *In re Proposed Extension Owen Tel. Co.* 630, 631.

SECTIONS CONSTRUED.

Sec. 1791—a, telephone utilities, requirements as to service and facilities, *see* TELEPHONE UTILITIES.

Sec. 1797m—3, telephone utilities, duty to provide reasonably adequate service, *see* TELEPHONE UTILITIES.

Sec. 1797m—74, telephone utilities, duplication of equipment of established utility, *see* TELEPHONE UTILITIES.

Sec. 1797m—74, (ch. 610, laws 1913), telephone utilities, extension of lines into municipality in which another utility is already engaged in furnishing local service, *see* TELEPHONE UTILITIES.

Sec. 1797m—74, (ch. 610, laws 1913), telephone utilities, extension of lines, public convenience and necessity of, *see* CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY.

Sec. 1797m—74, telephone utilities, extension of lines without authority from the Commission into municipality in which another telephone utility is already engaged in furnishing local service, prohibited by Public Utilities Law, *see* TELEPHONE UTILITIES.

Sec. 1797m—90, rates, telephone rates, deduction from rates to offset indebtedness of utility to subscriber, prohibited by Public Utilities Law, *see* RULES AND REGULATIONS.

Sec. 1797m—90, rebates or concessions, allowance to customer of electric utility on account of ownership of instrument or facility prohibited, *see* REBATES OR CONCESSIONS.

Sec. 1797m—90, services and facilities, appliances for the measurement of product or service, duty of electric utility to provide meters, *see* ELECTRIC UTILITIES.

Sec. 1797m—90, service and facilities, duty of telephone utility to provide instruments, *see* TELEPHONE UTILITIES.

PUBLICATION OF RATE SCHEDULES.

See SCHEDULES OR TARIFFS.

PUBLISHED RATE.

Departure from, prohibited, *see* SCHEDULES FOR UTILITIES, 1–2.

PULP.

Refund on shipments, Rothschild to Brokaw, *see* RATES—RAILWAY, 36; REPARATION, 23.

PULP WOOD.

See WOOD.

PUMPING RATES.

See RATES—WATER.

RAILROAD COMMISSION.

Authority of Commission in awarding reparation.

1. The Commission cannot relieve a shipper from the payment of the lawful established tariff charges. To do so would be the equivalent of suspending the operation of the statute, which is not within the power of the Commission. It only has authority to authorize refunds when the payments made are found to be exorbitant, unusual, illegal or erroneous. *Paine Lbr. Co. Ltd. v. C. & N. W. R. Co.* 633, 634.

2. The Commission is without power to decide upon the merits of complaints against charges or to authorize a refund of any part thereof, unless the complaint be lodged by the person aggrieved. *Wausau Advancement Assn. v. C. & N. W. R. Co.* 772, 774.

Commission without power to relieve shipper from payment of lawful established tariff charges.

See ante, 1.

Duty of Commission in regulating utilities.

3. The first and chief duty of a controlling body like this Commission is to protect the community and the individuals who compose it from encroachments upon their rights or property, through excessive charges or inadequate service, on the part of the public utility. That being true, it naturally follows that in the exercise of its protecting powers the Commission must have a care not to impair the ability of the utility to maintain at a just standard the character of the services and meet the steadily growing demands of the community for more and better service as time passes. In other words, it devolves upon the Commission to regard the demand for a reasonable return upon actual investment and for services rendered on the part of the utility, as fundamental in establishing and maintaining adequate service for the community on the assumption, always, that ordinary intelligence and honesty have been shown in establishing the utility. More than the welfare of any given utility or community under consideration is involved in this. If the principle were unwisely disregarded in any one case, it would be an effectual bar to the securing of funds to develop new utilities or improve existing ones throughout the entire state. *In re Appl. Darlington El. Lt. & W. P. Co.* 344, 346.

4. It is not alone a condition of continuous and improving service that a public utility shall receive reasonable compensation for services rendered, it is a sound economic principle, and one which the courts of last resort of nearly all the states, as well as the United States supreme court, have repeatedly affirmed. If the principle were disregarded by any controlling body, such as the legislature, or a city, or this Commission, an appeal to the courts would bring relief to the utility thus unjustly dealt with. If therefore there were no higher motive to guide the Commission in determining this question of reasonable compensation to utilities, the desire to have its orders effective through judicial affirmation would be sufficiently impelling. *In re Appl. Darlington El. Lt. & W. P. Co.* 344, 346–347.

5. This Commission in passing upon any utility case, whether it be

a petition of the utility for permission to increase its charges, or the complaint of a private consumer or a community that rates are too high or the service inadequate, must give a large share of attention to the question of the ability of the utility to maintain its service. *In re Appl. Darlington El. Lt. & W. P. Co.* 344, 347.

Duty of Commission to enforce reasonably adequate service and facilities.

6. It is the duty of the Commission to ascertain from all the facts and circumstances presented in any case the reasonableness of any rule or regulation respecting service and, if it shall determine that such rule or regulation is unreasonable, to change the same or substitute a reasonable rule or regulation in place thereof. *In re Use of Silent Numbers by Wis. Tel. Co.* 587, 593.

Jurisdiction of Commission—Commission without authority over authorization of contractors to do work or their dealings with private parties.

7. The Commission has no jurisdiction over the authorization of contractors to do work or over their dealings with private parties. *Freeholders etc. of Dodge County v. McWilliams,* 603, 605.

Jurisdiction of Commission—Industrial tracks—Commission without power to order restoration of an industrial track installed before the passage of the Railroad Commission Law and not paid for in full by the owners of the industry.

8. In the instant case the Commission is without jurisdiction to order the restoration of the sidetrack as prayed for. The track was installed before the passage of the Railroad Commission Law and was not paid for in full by the owners of the industry to which it was originally built, nor in part by the petitioner or her predecessors. Its removal is, therefore, not subject to the conditions imposed by sec. 1802 of the statutes, which provides for the building of spur tracks at the expense of the industry desiring them and for the removal only upon due notice and for good cause shown. *Doyle v. M. St. P. & S. S. M. R. Co.* 620, 622.

Jurisdiction of Commission—Over interurban railway service.

9. The right of the companies to operate interurban cars upon the streets which, in the instant case, was challenged by the city, is a judicial question and not within the power of the Commission to determine. So long as the companies render such service, however, that service is subject to the supervision and regulation of the Commission. *City of Waukesha v. T. M. E. R. & L. Co. et al.* 89, 97.

Jurisdiction of Commission—Over railway crossings—Commission without power to determine mode and manner of crossing on street which has not been legally opened.

10. The Commission is without authority to determine the mode and manner of a railway crossing on any street until the proper proceedings have been taken to have the street legally opened over the railroad right of way. Sec. 1797—12e of the statutes applies only to streets or highways which have been legally opened. *Village of Unity v. M. St. P. & S. S. M. R. Co.* 430, 431.

Jurisdiction of Commission—Over railway crossings—Commission without power to require separation of grades in proceedings instituted by individuals.

11. Sec. 1797—12e of the statutes requires a petition for a separation of grades to be lodged by the common council of a city, the village board of a village, the town board of a town or by a railway company, and the Commission has no jurisdiction in such proceedings when instituted by individuals. *Rueckert et al. v. C. M. & St. P. R. Co.* 749, 750.

Jurisdiction of Commission—Over river improvements.

12. The Commission has power to regulate all river improvements so as to conserve all public rights in such waters, promote the improvement of navigation and protect life, health and property. *Freeholders etc. of Dodge County v. McWilliams*, 603, 605.

Jurisdiction of Commission—Over terms and conditions for joint use of street railway tracks—Supply of electrical energy.

13. This Commission believes that it is within its authority to decide which of two street railway companies ordered to make joint use of tracks shall supply the power used over the tracks in question. *T. M. E. R. & L. Co. v. Chi. & Mil. El. Ry. Co.* 299, 309.

RAILROAD COMMISSION ACT.

See RAILROAD LAW.

RAILROAD COMMISSION LAW.

See RAILROAD LAW.

RAILROAD CROSSINGS.

See RAILROADS.

RAILROAD LAW.

SECTIONS CONSTRUED.

Sec. 1299h—1, railway crossings, restoration and maintenance of highways, *see* RAILROADS.
Sec. 1797—12e, Railroad Commission, jurisdiction over railway crossings, *see* RAILROAD COMMISSION.
Sec. 1797—37m, reparation, proceedings for recovery, person aggrieved must petition Commission, *see* REPARATION.
Sec. 1797—61, joint use of street railway tracks, when permissable, *see* STREET RAILWAYS.
Sec. 1798m, express companies, delivery and pick-up limits, *see* EXPRESS COMPANIES.
Sec. 1802, industrial tracks, removal of, when not within jurisdiction of Commission to prevent, *see* RAILROAD COMMISSION.

RAILROADS.

See also CARRIERS; CONNECTING CARRIERS; INTERURBAN RAILWAYS; STREET RAILWAYS.

Discrimination as between localities, *see* DISCRIMINATION, 5.
as between shippers, *see* DISCRIMINATION, 7.

ACCOUNTING.

See ACCOUNTING.

CONSTRUCTION, MAINTENANCE AND EQUIPMENT.

Crossings—Railroad by highway—Protection of—Jurisdiction of Commission.

1. Sec. 1797—12e of the statutes requires a petition for a separation of grades to be lodged by the common council of a city, the village board of a village, the town board of a town or by a railway company, and the Commission has no jurisdiction in such proceedings when instituted by individuals. *Rueckert et al. v. C. M. & St. P. R. Co.* 749, 750.

Crossings—Railroad by highway—Protection of—When necessary—Statutory requirements.

2. When no legal highway crossing exists at a designated point, a railroad company is not, under the statutes, under any obligation to provide cattle guards or other crossing facilities for its protection. *Town of Richfield v. M. St. P. & S. S. M. R. Co.* 623, 624.

Crossings—Railroad by highway—Apportionment of cost among parties.

3. The cost of the viaduct ordered is apportioned 60 per cent to the C. M. & St. P. Ry. Co., 25 per cent to the city of La Crosse and 15 per cent to the Wisconsin Ry. Lt. & P. Co. *In re Mills Street Crossing at La Crosse*, 145, 155.

Crossings—Railroad by highway—Elimination of.

See post, 5, 8.

Crossings—Railroad by highway—Installation of.

4. The petitioner alleges that there are not enough highway crossings over the respondent's line in the village of Unity and asks that the Commission open crossings at certain streets. *Held:* The Commission can take no action in the matter of the crossings desired by the petitioner at Cook, Wood and Church sts. until the streets named have been legally opened by the village over the railroad right of way and petition is made to the Commission for the determination of the mode and manner of crossing, as provided in sec. 1797—12e of the statutes. *Village of Unity v. M. St. P. & S. S. M. R. Co.* 430, 431.

Crossings—Railroad by highway—Protection of.

5. The Commission, on its own motion, investigated three highway crossings near Mukwonago, Waukesha county, located two on the M. St. P. & S. S. M. Ry. and one on the line of the M. L. H. & T. Co. The M. St. P. & S. S. M. Ry. Co. has agreed to install bell protection at the crossing located on its line three-fourths of a mile south of Mukwonago. Two crossings, therefore, remain for consideration. Both railway companies approve of a plan to eliminate the Rochester road crossing on the M. St. P. & S. S. M. Ry. and to protect the remaining crossing, at Front st. on the M. L. H. & T. Co.'s line by diverting the Rochester road into Front st. and enlarging the Front st. subway, first, to accommodate the increased traffic and, second, to provide a better view of the interurban cars. The M. St. P. & S. S. M. Ry. Co. is willing to bear the entire expense of the proposed alterations. The village authorities oppose this plan and request that a subway at the Rochester road crossing be ordered. *Held:* Each of the two crossings under con-

sideration is dangerous. The interests of all will be best subserved by relocating the highway. The M. St. P. & S. S. M. Ry. Co. is therefore ordered to construct, and maintain for a period of three years, a suitable highway connecting the Rochester road and Front st., to acquire the land necessary therefor, and to enlarge the subway on Front st., plans to be submitted. The portion of the Rochester road lying within the railway right of way is to be closed. *In re Crossings near Mukwonago*, 32, 37.

6. The petitioner alleges that three highway crossings on the C. & N. W. Ry. in the city of Ft. Atkinson are dangerous. *Held:* The crossings require further protection. The respondent is ordered: (1) to station a flagman, to be on duty from 7 a. m. to 8 p. m., or until such time as the last passenger train has gone by, at each of the two crossings located respectively at Madison ave. West, and Sherman ave. West; (2) to install and maintain at each of these crossings and at the crossing at South Fifth st. an automatic electric bell with illuminated sign; and (3) to install annunciators at Madison ave. West, and Sherman ave. West. Plans for track circuits are to be submitted to the Commission for approval. If the rule requiring trainmen to flag all train movements at the South Fifth st. crossing is not rigidly enforced the Commission will modify the present order to require the respondent to station a flagman at this crossing also. *City of Ft. Atkinson v. C. & N. W. R. Co.* 69, 73.

7. The petitioner alleges, in effect, that the Hammond road crossing on the C. St. P. M. & O. Ry. in the village of Baldwin, St. Croix county, is dangerous and that the bell protection which the respondent is planning to install would be inadequate. *Held:* The crossing is dangerous. Because of difficulties arising from the nature and amount of traffic, the proximity of the station building to the crossing, and the large number of school children who use the crossing, protection in addition to that afforded by a bell is necessary. The respondent is therefore ordered: (1) to station a flagman at the crossing to be on duty daily from 8:00 a. m. to 9:30 p. m.; and (2) to install and maintain a bell with an illuminated sign to operate during the hours the flagman is not on duty. Plans for track circuits are to be submitted. *Village of Baldwin v. C. St. P. M. & O. R. Co.* 76, 79.

8. The Commission, on its own motion, investigated the public necessity of relocating a highway which crosses the C. B & Q. R. R. near the village of Cassville, Grant county. The highway runs southeast from the village, crosses the railroad, follows the banks of the Mississippi river for about 1.15 miles, then turns north and crosses the railroad again. The railway company is willing to eliminate both crossings by relocating the highway connecting them north of, and parallel to, the tracks and to bear the entire expense of the change. This plan is opposed by three witnesses who own property south of the tracks. *Held:* Public safety requires the relocation of the highway. The company is therefore ordered: (1) to construct and maintain for a period of three years a highway, as specified, connecting the crossings; (2) to provide suitable private crossings at these points for the use of owners of property south of the railroad; and (3) to close the present crossings to public travel. *In re C. B. & Q. R. Crossings near Cassville*, 86, 88.

9. The petitioner alleges that the highway crossings formed by the intersection of Fourth avenue North and Third avenue North with the tracks of the G. B. & W. R. R. Co. and the C. & N. W. Ry. Co. in the city of Grand Rapids are dangerous. *Held:* The crossings require further protection. The respondents are therefore ordered to flag all switching movements on their respective lines over the crossings and to store no cars within the platted width of the streets or within 80 ft. west of Fourth avenue North on the second spur track south of the

main line. The G. B. & W. R. R. Co. is also ordered to limit the speed of trains on its main line over the crossings. *City of Grand Rapids v. G. B. & W. R. Co. et al.* 395, 398.

10. The petitioner alleges that two highway crossings on the respondent's line in the town of La Prairie, Rock county, known, respectively, as the "South Janesville crossing" and "Woodman's crossing," are dangerous. *Held:* The crossings are dangerous. The respondent is ordered to station a flagman at the South Janesville crossing who shall be on duty from 7 a. m. to 9:15 p. m. daily from May 1 to Nov. 30, and from 7 a. m. to 7 p. m. daily, for the remainder of the year; and to install and maintain at the crossing, subject to plans submitted to the Commission for approval, an electric bell with illuminated sign which shall operate during the hours when the flagman is not on duty. The respondent is further ordered to replace the board wing fence at Woodman's crossing with a suitable woven wire fence. It is suggested that the town authorities remove the obstructing brush and trees along the highway at this point. *Town of La Prairie v. C. & N. W. R. Co.* 440, 443.

11. The petitioner alleges, in three separate complaints, that the Tillotson crossing, the Tierman crossing and the Summit crossing on the I. C. R. R. in the town of Madison are dangerous. *Held:* The crossings are dangerous. The railroad company is ordered: (1) to protect the Tillotson crossing by flaring as specified the ends of the cut in which the railroad lies and by grading to its full width that portion of the highway lying within its right of way, providing proper drainage facilities; (2) to install and maintain at the Tierman crossing an electric bell with illuminated sign, plans to be approved; and (3) to remove the waste material from the banks of the cut in which its track lies at the Summit crossing for the entire length of the cut so that the elevation of the land within its right of way shall not be greater than the elevation of the adjacent ground on the same side of the right of way. *Town of Madison v. I. C. R. Co.* 608, 612.

12. This is a rehearing of a matter decided Nov. 14, 1913 (13 W. R. C. R. 74), held upon petition of the railway company which alleges that the highway crossing in question can be adequately protected by other and less expensive means than by a flagman and prays for a modification of the order issued. *Held:* Though as a general practice the Commission does not approve of stopping trains at dangerous crossings in lieu of providing other methods of protection, it appears that trains in the instant case can be stopped as suggested by the railway company without materially impairing their schedules and that this will afford adequate protection at the crossing. The former order is therefore modified so as to require the railway company to station a flagman at the crossing to be on duty from 7 a. m. to 6 p. m. daily, or, at its option, to stop each of its trains at the crossing and protect the crossing by a trainman who shall precede the train to the street and remain there to warn travelers until the train has passed. *In re C. M. & St. P. Crossing in Eau Claire,* 628, 629.

Crossings—Railroad by highway—Protection of—Annunciators.
See ante, 6.

Crossings—Railroad by highway—Protection of—Automatic alarm with illuminated sign.
See also ante, 6–7, 10–11.

13. The petitioner alleges that the "Fergin" highway crossing over the I. C. R. R. in the town of Fitchburg, Dane county, is dangerous. *Held:* The crossing requires protection. The respondent is ordered to install and maintain an electric bell, with illuminated sign, plans to be

submitted for approval. The offer of the respondent to protect the crossing by stopping all of its trains at the crossing cannot be entertained, for the reason that this method of protection would not only impair the service but would also involve much greater expense than the installation of proper safety devices. *Town of Fitchburg v. I. C. R. Co.* 403, 405.

14. The petitioner alleges that a highway crossing, known as Cribbin's crossing, on the I. C. R. R. near Basco station in the town of Montrose, Dane county, is dangerous. *Held:* The crossing requires further protection. The respondent is ordered to install an automatic electric bell with illuminated sign, plans to be approved. *Town of Montrose v. I. C. R. Co.* 613, 614.

15. The petitioner alleges that a highway crossing on the respondent's line, about two miles north of Stratford in the Town of Cleveland, Marathon county, is dangerous. *Held:* The crossing requires further protection than that afforded by the crossing signs now used. The respondent is therefore ordered to install and maintain an automatic electric bell with an illuminated sign for night indication, plans to be submitted for approval. Ninety days is considered a sufficient time within which to comply with this order. *Town of Cleveland v. C. & N. W. R. Co.* 729, 731.

Crossings—Railroad by highway—Protection of—Flagmen.

See ante, 6–7, 9–10, 12.

16. The Commission, on its own motion, investigated a crossing on the C. M. & St. P. Ry. at Chestnut street in Eau Claire. The railroad crosses two intersecting streets and a street railway at the point in question. *Held:* The crossing requires further protection. The respondent is ordered to station a flagman at the crossing to be on duty from 7 a. m. to 6 p. m. daily. *In re C. M. & St. P. Crossing in Eau Claire,* 74, 75.

Crossings—Railroad by highway—Protection of—Improvement of highway.

See ante, 11.

17. The petitioner alleges that the crossing over the respondent's line at Clark street in the village of Unity is not properly graded. *Held:* The crossing is dangerous in its present condition. It is the respondent's duty under sec. 1299*h*—1 of the statutes to remedy this defect by proper treatment of that part of the highway which lies within the railroad right of way. The respondent is therefore ordered to provide a properly drained roadway within its right of way lines at Clark st., which shall be surfaced and graded in substantially the same manner as the adjacent portions of the highway, and which shall have a crown as wide as the full traveled roadway in the adjacent portions of the highway. *Village of Unity v. M. St. P. & S. S. M. R. Co.* 430, 436.

Crossings—Railroad by highway—Protection of—Limitation of car storage area.

See ante, 9.

Crossings—Railroad by highway—Protection of—Provision of private crossings.

See ante, 8.

Crossings—Railroad by highway—Protection of—Relocation of highway.

See ante, 5, 8.

Crossings—Railroad by highway—Protection of—Removal of obstructions to view.

See ante, 9–11.

Crossings—Railroad by highway—Protection of—Stopping of trains.

See ante, 12.

Crossings—Railroad by highway—Protection of—When no legal highway exists.

18. The petitioner alleges that the respondent refuses to provide cattle guards, signal posts, etc. at a highway crossing formed near Colgate by the intersection of the respondent's line with a public highway. The highway was laid out up to the lines of the respondent's right of way in 1910; but no evidence was introduced to show that the highway was legally opened across the railroad right of way. *Held:* Until the proper legal procedure is taken to open the highway over and across the respondent's right of way no legal highway crossing will exist at the point in question and the respondent will be under no statute obligation to provide cattle guards or other crossing facilities. The complaint is therefore dismissed. *Town of Richfield v. M. St. P. & S. S. M. R. Co.* 623, 624.

Crossings—Railroad by highway—Relocation of highway.

See ante, 5, 8.

Crossings—Railroad by highway—Separation of grades.

19. The petitioners, residents of the city of Portage, Columbia county, allege that the highway crossing on the respondent's line at Cass st. in the city named is dangerous and ask that the respondent be required to construct a viaduct or subway at the crossing. *Held:* Inasmuch as sec. 1797—12*e* of the statutes requires a petition for a separation of grades to be lodged by the common council of a city, the village board of a village, the town board of a town or by a railway company, the Commission has no jurisdiction in the matter as at present brought before it. The petition is dismissed. *Rueckert et al. v. C. M. & St. P. R. Co.* 749, 750.

Crossings—Railroad by highway—Separation of grades—Apportionment of expenses.

See ante, 3.

Crossings—Railroad by highway—Separation of grades—Viaduct.

20. The Commission, on its own motion, investigated the advisability of revising the order issued Jan. 2, 1912 (8 W. R. C. R. 422), in the matter of the Mill street crossing at La Crosse. This order required the construction at Rose street of a viaduct conforming to certain specifications and provided for the division of the expense between the C. M. & St. P. Ry. Co. and the city of La Crosse. Actual work under the order has been deferred from time to time upon request of city officials who have proposed various means other than the remedy ordered by the Commission for eliminating the dangerous conditions now existing at Mill street. The means proposed include: the construction of a subway at Rose street; the construction of a viaduct at Mill street; the construction of a subway and the elevation of the railroad tracks at Mill street; a general elevation of the railroad tracks

and the construction of subways at Mill and certain other streets; and the relocation of the railroad to avoid the present crossings with the streets of the city. *Held:* In view of the present and future needs both of the city and the railway company and the relative expense of making the various alterations proposed, it is advisable to construct a viaduct at Rose street as originally ordered. The apportionment of the expense in the original order, however, appears, in the light of more accurate estimates now available, to be unfair to the city. It also appears desirable to reapportion the work of construction, if the cost is reapportioned. It is therefore ordered that the viaduct be constructed in accordance with specifications set forth and that the C. M. & St. P. Ry. Co. bear 60 per cent, the city 25 per cent, and the Wisconsin Ry. Lt. & P. Co. 15 per cent of the expense incurred. The Wisconsin Ry. Lt. & P. Co. is, with the permission of the city, to change its distribution system so as to operate its cars over the new viaduct instead of over Mill street. The city is to assume responsibility for damages to adjacent property or business arising from the issuance or enforcement of the order or from the proper prosecution of the work ordered. The C. M. & St. P. Ry. Co. is to maintain such portion of the bridge and its approaches as lies within its right of way limits except the planking and pavement on the roadway and the sidewalk, which the city is to maintain. The remainder of the structure is to be maintained by the city. The Wisconsin Ry., Lt. & P. Co. is to maintain its tracks and power distribution system, including those portions upon the viaduct and its approaches. *In re Mills Street Crossing at La Crosse*, 145, 152–155.

Crossings—Railroad by railroad—Separation of grades—Viaduct.

See ante, 20.

OPERATION.

Requirements as to service and facilities.

See STATION FACILITIES; SWITCH CONNECTIONS; TRAIN SERVICE.

RATES.

See RATES—RAILWAY.

RATE ADJUSTMENT.

See RATES.

RATE SCHEDULES.

See SCHEDULES FOR UTILITIES.

RATES—ELECTRIC.

See also MINIMUM CHARGES.

Discrimination in electric rates, *see* DISCRIMINATION, 1–3.

Flat rates.

1. Flat rates are not only unscientific and unequal, but they tend to prevent the growth of business along those lines where development is most natural, for the reason that the rates must usually be placed at a relatively high figure. *In re Appl. Village of Withee*, 704, 709.

2. Under a system of flat rates there is a considerable tendency for consumers to extend their installations or to increase the sizes of their lighting units without the knowledge of the company and the con-

sumer who uses his lights but a short time each day is thereby required to pay as much as the consumer who uses them many hours per day. Inequalities of this kind are bound to arise when flat rates per lamp are fixed without regard to the time the lamps are used. Such rates, moreover, usually result in waste, for they give no incentive towards saving, since the price is the same whether the lamp is used two or five hours daily. *In re Appl. Village of Withee*, 704, 709.

Flat rates—Discriminatory nature of.
See ante, 1–2.

Making rates—Elements considered—Cost of service—Cost of additional business.

3. To adhere closely to the table of costs is not always advisable. The reason for distributing the fixed cost over the three steps, in the present case as well as in many other instances, contrary to the cost curve, and thus charging the short hour user less than his pro rata share, is that there are a great many short hour users who cannot be made to contribute the full amount of this share. These consumers are profitable, however, when they help bear a part at least of the overhead charges, and, even though they do not carry their full share, thus lighten the load to the other consumers. *In re Appl. Neshkoro Lt. & P. Co.* 52, 63.

4. The Commission has pointed out in many cases the advantages of a power load. All that need be said here is that off-peak long-hour power business which, for competitive and other reasons, cannot be had on better terms, might be accepted at less than the regular rates, provided, of course, that the yield therefrom leaves something for fixed charges and, provided further, that it can be so taken without unjust discrimination. For various reasons it is customary everywhere to grant much lower rates for power than for lighting. *In re Appl. Neshkoro Lt. & P. Co.* 52, 64.

Making rates—Elements considered—Cost of service—Deficits arising from failure of a branch of the service to pay its costs.

5. When one service does not pay its costs, some of the other services must contribute to make up the loss in the form of higher rates if the utility as a whole is to receive a fair return on its investment. The question as to how much of these deficits can be equitably charged to the other services, such as street lighting and commercial lighting, must be the issue in this case. *City of Waukesha v. Waukesha G. & El. Co.* 100, 125–126.

Making rates—Elements considered—Cost of service—General and undistributed expenses.

6. The controlling company of the utilities involved in the present case charges against these utilities a sum equal to 2 per cent of their gross receipts to cover the expense for the services of the general officers of the company, the services of a centralized purchasing department and the creation and maintenance of an insurance reserve. Under a system of scientific accounting this expense would be apportioned more accurately among the various utilities owned by the controlling company, but in the instant case it appears that the expense charged is, on the whole, a fair one and any adjustments which are necessary will be made in the rate of return. *City of Waukesha v. Waukesha G. & El. Co.* 100, 116–117.

Making rates—Elements considered—Cost of service—Output, capacity and consumer costs.

7. The probability that taxing officers will use the value placed by the Commission upon the property of a utility as the basis for assessing higher taxes against the utility should be taken into consideration in fixing rates for the services of the utility. Taxes are a legitimate expense of production and must be met from the revenues of the utility. *City of Waukesha v. Waukesha G. & El. Co.* 100, 115–116.

8. In administering the Public Utilities Law the Commission is compelled by economic and legal necessities to recognize the fact that investments are made in public utilities not through philanthropy but through a desire for gain and to regard the demand for a reasonable return upon the actual investment as fundamental in establishing and maintaining adequate service for the community—on the assumption, always, that ordinary intelligence and honesty have been shown in establishing the utility. Charges for the service of a public utility should, as a rule, be determined upon cost based upon a reasonable and just value of the property used and useful in giving the service. In determining this value the Commission gives heed to all factors which seem to enter into the composition of a plant and its product, but pays no attention to fancy values claimed by owners, whether they appear in the form of an over-issue of securities or in inaccurate account keeping. *In re Appl. Darlington El. Lt. & W. P. Co.* 344, 345–347.

9. The nature of the electric business is such that the cost consists of a capacity charge which depends upon the demand and an output charge which varies directly with the quantity of current sold. The cost of current per unit of output therefore varies with the number of hours' use per day. *In re Appl. Mt. Horeb Heat, Lt. & P. Co.* 653, 660–661.

10. As the utility plant in the instant case is a new property located in a small village, and as the earnings appear to warrant it, interest and necessary profits, which are usually included in the term "reasonable return", have been placed at 8 per cent on the fair value. *In re Invest. Mosinee El. Lt. & P. Co.* 712, 716.

11. Though the utility in the instant case for some reason has not paid any taxes up to date it is not likely that this situation will continue and allowance has therefore been made for taxes in determining normal expenses. *In re Invest. Mosinee El. Lt. & P. Co.* 712, 716.

12. In the electric business the use of energy is only one element of expense and a consumer who uses very little current may cause a relatively large amount of expense because of the fact that he has a large installation. *In re Invest. Mosinee El. Lt. & P. Co.* 712, 717.

Meter rates—Straight meter rates.

13. A straight meter can be satisfactory only when all consumers have about the same demand or installation and use the current about the same length of time each day. *In re Appl. Neshkoro Lt. & P. Co.* 52, 54.

Power rates.

14. Several reasons are usually assigned for the giving of rates to power service which are lower than the rates given to lighting service. Among these reasons are the low demand of power service at the time of the maximum load upon the station, and the desirability of building up the day load. In the case of large installations, however, the reason is largely to be found in the necessities of competition. To get and retain the business the utility is forced to supply current at a cost no higher than that at which the individual large consumer could supply himself from a private plant. In many instances this

means that the unit costs of the utility must be considerably lower than the unit costs of the private plant to compensate for the fact that the owner of the private plant is often able to use the exhause steam as a by-product for heating purposes and thereby effect a saving in other of his business expenses. *City of Waukesha v. Waukesha G. & El. Co.* 100, 125.

Reasonableness of advance in rates in particular cases.

15. The Neshkoro Lt. & P. Co. applies for authority to increase its rates for electric service in Neshkoro, Lohrville and Red Granite. A valuation was made and the revenues and expenses were investigated. The records of the utility have been improperly kept and it is therefore necessary to estimate normal and reasonable costs on the basis of the record information available and data obtained with respect to the operation of similar plants. The expenses thus estimated were apportioned between capacity and output expenses and further apportioned among street lighting, commercial lighting, and power expenses. In order to arrive at a schedule of reasonable rates, a basis of normal and reasonable costs must be established. In the present case the probable cost of generating electricity at a steam plant furnishing current under conditions similar to those existing in Neshkoro was investigated and it was found that the operating costs would be no lower if steam were substituted for the hydraulic generation now used. The applicant's costs under hydraulic operation are therefore used, with data secured from other sources, as the basis for the determination of the rates ordered. *Held:* In the absence of definite information, due to the applicant's failure to keep such a system of accounts as is required by the Public Utilities Law, it is impossible to reach final conclusions at this time. If experience shows that some of the conclusions tentatively reached in the present case should be altered, modifications can be made when necessary. The applicant is therefore authorized to put into effect rate schedules fixed by the Commission at such time as the applicant shall have adopted and installed a system of accounts in accordance with the Commission's classification. *In re Appl. Neshkoro Lt. & P. Co.* 52, 65–68.

16. The Darlington El. Lt. & W. P. Co., since succeeded by the Darlington El. Co., applied for authority to increase its rates for electric current. A valuation was made, the revenues and expenses were investigated and the expenses were apportioned between commercial lighting and street lighting. The city of Darlington opposes the application of the electric company upon the ground: (1) that the decision in a former proceeding (1910, 5 W. R. C. R. 397) is a bar to the present proceeding; (2) that the electric company is not a public utility; and (3) that with proper operation the present rates will be sufficient to pay all operating expenses and provide a reasonable profit. The city alleges also that the service rendered by the electric company is inadequate. The service, however, has been improved to such an extent that the complaint of the city on this point need not stand in the way of a consideration of the petition in the matter of rates. Careful consideration has been given to the relation between the investment in non-operating property and the costs of operation when current is generated by the utility and when purchased for resale, and allowance is made in the appraisal for the non-operating property upon the basis of its value for stand-by or reserve purposes. Allowance is also made in the consideration of operating expenses for the amortization of the investment in the non-operating property held for stand-by service. *Held:* 1. The Darlington El. Co. is a public utility. 2. Revision of the company's rates is necessary. The company is therefore ordered to put into effect a schedule of rates determined by the Commission for incandescent lighting, street lighting and power service.

This schedule is tentative and it may be necessary to revise it after a year's operation under it. The order provides for a minimum charge of 50 cts. net per month for 500 watts or less of connected load, plus 5 cts. for each additional 50 watts of connected load. *In re Appl. Darlington El. Lt. & W. P. Co.* 344, 358–362.

17. Application is made by the city of Menasha for authority to increase its rates for commercial electric lighting and power service. The rates asked for were put into effect by the city in February, 1912, but not filed with the Commission, when the city began to furnish regular commercial service to consumers in the city in competition with the privately owned utility doing business there. The rate formerly in effect was for a small amount of service supplied from the municipal street lighting system to private parties at such times only, it appears, as the equipment was in operation for municipal purposes. *Held:* It is probable that the rates asked for by the applicant might have been accepted without hearing as rates for a new service had they been so filed with the Commission. The rates in question do not meet entirely with the approval of the Commission, but no alteration will be made under the present proceeding. The applicant is authorized to put into effect the schedule of rates described in its application. *In re Appl. City of Menasha*, 424, 426.

18. The Endeavor El. Lt. & P. Co. applies for authority to increase its rates for electric current. The plant is operated in connection with a creamery and in fixing the rates the management underestimated the cost of conducting the electric business. A valuation was made and the revenues and expenses were investigated. It was found that the utility is operating at a loss under the present rates and that even the rates proposed by the utility will fail to yield a fair return and will probably be insufficient to cover depreciation and other operating expenses. *Held:* Though a somewhat different schedule of rates might be recommended, the schedule proposd by the utility is not unreasonable. The utility is therefore authorized to put this schedule into effect. *In re Appl. Endeavor El. Lt. & P. Co.*, 448, 451.

19. The Mt. Horeb Heat, Lt. & P. Co. applies for authority to increase its rates for electric current. A valuation of the physical property of the applicant was made and the revenues and expenses were investigated. The applicant has recently changed its method of generation from steam to producer gas, increased its investment and made plans to furnish its consumers with current during the daytime and to otherwise improve the service. Two computations are accordingly made of revenues and expenses, one being based upon conditions before the changes mentioned, the other upon estimates of what the expenses and sales will be under the new conditions. *Held:* The applicant's rates require revision. The applicant is authorized to put into effect a schedule of rates fixed by the Commission. *In re Appl. Mt. Horeb Heat, Lt. & P. Co.* 653, 664–665.

20. The village of Withee, which is operating an electric plant under a six months' lease from the owner, applies for authority to increase its rates for electric current. No satisfactory record information is available as to the value of the plant, its revenues, its expenses or its consumer statistics. It has therefore been necessary to estimate probable revenues and expenses upon the basis of such specific and comparative data as could be secured and the results, consequently, can only be tentative. *Held:* (1) The applicant's rates should be revised. (2) A station watt-hour meter should be installed for the purpose of aiding in providing records upon which it will be possible to accurately determine the cost of supplying service. The applicant is ordered (1) to put into effect a schedule of rates fixed by the Commission; and (2) to install within thirty days a station watt-hour meter to measure the output of the plant. Though flat rates fixed at a certain rate per lamp

usually result in unequal treatment of consumers and in the wasteful use of current, and usually, because of the high figure at which they must be placed, discourage the development of business, in the instant case it is not deemed advisable to require the utility to furnish or install meters at its own expense for consumers using less than four 50-watt units or their equivalent in any one building. The order, therefore, provides flat rates for residence and commercial consumers falling within this class, though it authorizes the utility, if it so desires, to install a meter for any commercial consumer. *In re Appl. Village of Withee*, 704, 709–711.

Reasonableness of rates—Matters considered in determining reasonableness—Comparative data.

21. In order to arrive at a schedule of reasonable rates, a basis of normal and reasonable costs must be established. It is not enough merely to take an average of expenses for a given period, but expenses must be obtained in detail for a sufficiently long period, and the details must be studied and analyzed and compared with the costs of similar plants. When such analyses and comparisons are properly made, the results are of marked value as indicating what are normal costs and the extent to which these costs are influenced by conditions peculiar to the locality. In this case it has seemed advisable to investigate the probable cost of generation by a steam plant furnishing current under conditions similar to those existing in Neshkoro. *In re Appl. Neshkoro Lt. & P. Co.* 52, 59–60.

Reasonableness of rates—Matters considered in determining reasonableness—Cost of service.

See ante, 21.

Reasonableness of rates—Matters considered in determining reasonableness—Net earnings of utility.

22. An examination of the reports of the utility to the Commission must be made to determine whether the present net earnings of the plant are assured; whether they are high enough to warrant keeping the rates as low as at present and whether the net earnings for some of the more recent years have exceeded the average net earnings for the entire period considered. Where clear and logical reports are available for examination, these points may be determined with ease and accuracy. *In re Appl. Neshkoro Lt. & P. Co.* 52, 55.

Reasonableness of rates in particular cases.

23. The Commission, on its own motion, further investigated the matter of the electric rates charged by the Chippewa Valley Ry. Lt. & P. Co. for service in the city of Eau Claire, for the purpose of considering the advisability of revising the order issued Nov. 11, 1912 (10 W. R. C. R. 692). This order, which gave the utility a choice between two schedules designed to eliminate discriminatory practices previously followed, was suspended prior to the date on which it was to go into effect, on the ground that the utility had additional facts to present to the Commission. *Held:* The adoption of either of the schedules proposed in the order of Nov. 11, 1912, would result in many increases in rates which do not seem warranted at the present time. The order in question is therefore revoked and the utility is ordered to place in effect on Dec. 1, 1913, a new schedule of rates determined by the Commission. *In re Invest. Chippewa Valley Ry. Lt. & P. Co.* 19–22.

24. The city of Waukesha complains that the rates charged by the Waukesha G. and El. Co. for electric service in the city of Waukesha

are excessive. The respondent operates a joint utility composed of three individual utilities engaged in the manufacture and sale of gas, electricity and heat. A valuation of the property of the utilities was made and the unit physical investment in the electric utility was compared with the unit physical investment in similar utilities valued by the Commission. The revenues and expenses were apportioned between capacity and output expenses and further apportioned among commercial lighting, commercial power and street lighting expenses. The utility has suffered heavy losses partly, perhaps, because of the fact that the controlling company, being primarily interested in the sale of gas, has made little effort to increase the sales of electricity. The undeveloped condition of the business of the electric utility is in large part due to the fact that the commercial lighting consumers have been compelled to pay rates high enough to include costs which should have been borne by the power consumers. Fully 90 per cent of the power consumption is paid for at rates which are less than the cost of rendering power service, and the losses thus incurred are recouped, so far as recouped at all, from the rates charged commercial lighting consumers. *Held:* The utility is not earning excessive profits but its rate schedule requires revision for the purpose of eliminating certain regressive or otherwise discriminatory features. The utility is ordered to put into effect a schedule determined by the Commission. This schedule is designed to be developmental and it therefore does not provide sufficient revenue at present to pay a fair return on the investment. The order is tentative and will be modified when the necessity for modification appears. *City of Waukesha v. Waukesha G. & El. Co.* 100, 131–135.

25. The Commission, on its own motion, investigated the rates of the Madison G. & El. Co. A valuation was computed on the basis of the fair value used in a previous investigation of the utility (1911, 7 W. R. C. R. 152) and subsequent additions to property, the revenues and expenses of the electric department were analyzed and the expenses were apportioned among the different classes of service. *Held:* A substantial reduction in the rates for incandescent lighting is possible. Inasmuch as the findings of the Commission in the instant case are the result of an informal proceeding, no formal order is issued but it is recommended that the utility put into effect for this class of service a schedule of rates prescribed by the Commission. *In re Madison G. & El. Co.*, 259, 264–267.

26. The order issued Nov. 4, 1913, 13 W. R. C. R. 19, in this matter was suspended for one month upon application of the utility to enable it to so adjust conditions that the regular commercial lighting schedule could be put into effect. This adjustment has now been made and as the regular lighting schedule appears to be reasonable and as it abolishes certain discriminatory features which have existed for some time it appears that this schedule with certain modifications should be placed in effect. The order of Nov. 4, 1913, is therefore revoked and the utility is ordered to put into effect the schedule in question as prescribed by the Commission. *In re Investigation Chippewa Valley Ry. Lt. & P. Co.* 444, 447.

27. The Commission, having received complaints that the rates of the Mosinee Lt. & P. Co. are unreasonable and excessive, investigated the matter on its own motion. A valuation was made, the revenues and expenses were analyzed and the expenses were apportioned among commercial lighting, commercial power, and street lighting. The utility began operation in October, 1911, and so far has paid no taxes and made no provision for depreciation. Expenses for these purposes will have to be met in the future, however, and they are therefore considered in determining the reasonableness of rates for the services of the utility. The utility now has in effect for commercial lighting a

schedule of rates which takes into account only the amount of electric energy used by a consumer without regard to his installation. *Held:* The utility's present schedule of rates requires revision. The utility is ordered to put into effect a schedule of rates fixed by the Commission. The minimum bill is to be 50 cts. per month. This amount may not be sufficient to fully cover every consumer's proportionate share of the total expenses of the utility, but it should be sufficient to cover the additional expense incurred in giving him service and to leave some excess to reduce costs to other consumers. *In re Invest. Mosinee El. Lt. & P. Co.*, 712, 723–725.

RATES—EXPRESS.

Block system of rates.
See post, 1.

Reasonableness of rates in particular cases.

1. The date on which the order issued in this matter on May 20, 1913, (12 W. R. C. R. 1, 43) should become effective has been postponed from time to time pending the decision of the appeal from the order to the circuit court for Dane county and the making by the Commission of certain additional investigations. The latest postponement makes the order effective on Feb. 1, 1914. The respondent express companies, however, desire to put into effect rates for temporary use which will be in harmony with the interstate express rates recently established by the interstate commerce commission to become effective Feb. 1, 1914. *Held:* Though the rates proposed by the express companies do not entirely agree with the Commission's ideas of what those rates should be, it is the opinion of the Commission that, in view of the fact that the rates as proposed will confer many benefits on the shippers of the state, these rates should be permitted to become effective for the time being with the exception of such as are higher than the interstate rates between the same blocks would be. The respondents are therefore ordered to put into effect the rates, classifications and bases of charge shown in the tariffs W. R. C. numbers 5, 6, 7 and 9 filed by them with the Commission, provided that where block rates between points in Wisconsin as named in these tariffs are higher than the interstate rates effective Feb. 1, 1914, between the blocks in which such points are located, the rates named in the tariffs shall be reduced to an equality with the interstate rates. The rates prescribed are to become effective immediately upon the filing of the tariffs in the manner required by law. The order of May 20, 1913, (12 W. R. C. R. 1, 43) is rescinded. *In re Invest. Express Rates*, 666, 668.

RATES—GAS.

See also MINIMUM CHARGES.

Making rates—Elements considered—Cost of service—Output, capacity and consumer costs.

1. The probability that taxing officers will use the value placed by the Commission upon the property of a utility as the basis for assessing higher taxes against the utility should be taken into consideration in fixing rates for the services of the utility. Taxes are a legitimate expense of production and must be met from the revenues of the utility. *City of Waukesha v. Waukesha G. & El. Co.* 100, 115–116.

2. Although the Commission has no power to determine the taxes to be paid on the property of a utility the Commission must take these taxes into consideration in fixing rates for the service of the utility.

Such taxes are a necessary cost of operation and must be provided for out of the revenues of the utility. *Yanko et al. v. Portage American Gas Co.* 136, 141.

Reasonableness of advance in rates in particular cases.

3. The Manitowoc Gas Co. applies for authority to put into effect a schedule of increased rates. The present rates are the result of a series of rate amendments made voluntarily by the utility since 1907 and effecting successive reductions, apparently for the purpose of developing business. The utility now compares favorably, in respect both to number of consumers and sales per consumer, with other gas utilities in the state operating under similar circumstances, and it is unlikely that anything more than a gradual, normal development of the business will be experienced in the future. A valuation of the physical property was made and the total value, including all elements, established as between $196,000 and $200,000, a final statement of the value of the property not being necessary to the decision of the case. The utility offers no valuation of the property as a whole but submits a brief enumerating amount claimed for various elements of value. This brief is considered in detail. Investigation of the earnings and expenses of the utility for the past two fiscal years shows that when proper charges are made to operating expenses for promotion of business, general expenses and depreciation the amount available under the present rates for interest and profits is insufficient to provide even a 6 per cent return on the value of the property when taken at the lower figure stated above. To arrive at a schedule of rates which will yield a fair return, tentative apportionments of expenses between consumer and output expenses are made upon an assumed valuation of $200,000 for interest rates of 6 and 7 per cent, respectively, and estimates are made of the revenues which, as shown by the experience of other gas plants investigated by the Commission, would probably result from a number of different rate schedules. *Held:* Although some increase in revenues is needed under existing conditions, the increase asked for by the utility is unnecessarily large. The utility is therefore authorized to put into effect a rate of $1.05 per thousand cubic feet, net, or $1.15 gross, for fuel and illuminating gas. All other rates are to remain as at present. *In re Appl. Manitowoc G. Co.* 325, 339.

Reasonableness of rates in particular cases.

4. The city of Waukesha complains that the rates charged by the Waukesha G. and El. Co. for gas service in the city of Waukesha are excessive. The respondent operates a joint utility composed of three individual utilities engaged in the manufacture and sale of gas, electricity and heat. A valuation of the property of the utilities was made and the unit physical investment in the gas utility was compared with the unit physical investment in similar utilities valued by the Commission. The revenues and expenses of the gas utility were investigated and the expenses were apportioned between consumer and output expenses. The utility, though one of the best developed businesses in the state, has suffered losses and is at present earning less than enough to provide adequately for interest and depreciation, because of fixed charges which are heavy in comparison with the volume of business done. *Held:* The utility is not earning excessive profits but is operating at a loss. The rate schedule requires revision, however, for the purpose of eliminating certain regressive or otherwise discriminatory features. The utility is ordered to put into effect a schedule of rates determined by the Commission. The order is tentative and will be modified when the necessity for modification appears. *City of Waukesha v. Waukesha G. & El. Co.* 100, 131–135.

5. The petitioners allege that the rates charged by the Portage American Gas Co. in the city of Portage are excessive. A valuation was made and the revenues and expenses were investigated. The expenses were further apportioned between consumer and output expenses and were further apportioned between commercial and municipal lighting. The business of the utility appears to have about reached its maximum development from the point of view both of the number of consumers and the total sales of gas. Comparison of the unit costs of the utility with those of other coal gas plants in Wisconsin indicates that the utility is efficiently managed. *Held:* The rates charged by the respondent for commercial service require revision. The respondent is ordered to put into effect a schedule of rates determined by the Commission. Power service, which is of little or no importance in the business of the respondent, is to be charged for at the same rates as commercial service. The present rates for street lighting are reasonable and will be left unchanged. *Yanko et al v. Portage American Gas Co.* 136, 144.

6. The Commission on its own motion, investigated the rates of the Madison G. & El. Co. A valuation was computed on the basis of the fair value used in a previous investigation of the utility (1911, 7 W. R. C. R. 152) and subsequent additions to property, the revenues and expenses of the electric department were analyzed and the expenses were apportioned among the different classes of service. *Held:* Because of changes which the utility is making in its methods of production no alteration should be made in the gas rates at the present time. *In re Madison G. & El. Co.* 259, 264.

RATES—HEATING.

Making rates—Elements considered—Cost of service—Output, capacity and consumer costs.

1. The probability that taxing officers will use the value placed by the Commission upon the property of the utility as the basis for assessing higher taxes against the utility should be taken into consideration in fixing rates for the service of the utility. Taxes are a legitimate expense of production and must be met from the revenues of the utility. *City of Waukesha v. Waukesha G. & El. Co.* 100, 115–116.

Reasonableness of rates in particular cases.

2. The rates of the heating utility are not under review in the present proceeding, the heating utility being investigated only in connection with the apportionment of expenses for the gas and electric utilities. It appears, however, that the rates of this utility are too low to cover reasonable costs of operation. *City of Waukesha v. Waukesha G. & El. Co.* 100, 131.

RATES—INTERURBAN.

Distance basis for fares.

1. It is deemed that a basic rate of 2 cts. per passenger mile with a flat rate for the terminals and subterminals will best meet the requirements of the interurban service in the instant case. *In re Milw. Suburban & Interurban Ry. Rates,* 475, 488.

Fare limits—Reasonableness of single fare limits.

See post, 6.

Five cent zone system of rates.

2. The so-called five cent zone system of suburban and interurban rates in use on many interurban electric railways is unscientific and inequitable because of the unequal zone distances used, the concessions made to favored localities and favored classes of passengers at the expense of other localities and other classes of passengers and the consequent shifting of costs, in the form of excessive rates, onto patrons in the localities or classes discriminated against. In the instant case the one-way fares charged for different trips over the suburban and interurban lines of the two companies vary widely when compared on a passenger-mile basis. This discrimination has given rise to other discriminations such as those involved in the granting of overlapping zones and special and round trip rates to favored points. *In re Milw. Suburban & Interurban Ry. Rates*, 475, 482–484.

Limit for commutation tickets—Extension of.

See post, 6.

Making rates—Elements considered—Cost of service.

3. It has been contended that the basic rate in the instant case should be placed upon a cost-of-service basis. When the conditions prevailing on the interurban system as indicated by the passenger density per car-mile are considered, however, it seems best to place the rate at a figure lower than the cost of service would demand so as to encourage the passenger density to increase sufficiently to bring the revenues to the point where they will bring an adequate return above all expenses. *In re Milw. Suburban & Interurban Ry. Rates*, 475, 488–489.

Making rates—Elements considered—Nature of transportation business.

4. The nature of the transportation business is such as to make simplicity, uniformity and stability in rate schedules desirable. The basic rate for regular passenger fares upon the steam lines within the state, for example, is 2 cts. per passenger-mile and with few exceptions the fares are computed accordingly whether the company is large or small, whether the haul is long or short, whether the traffic is profitable or unprofitable, or whether the service is poor or excellent. If all these factors cited should be reflected in full force in the rates the probability is that the rates would vary all the way from 0.5 of a cent per mile to 50 cts. per mile. But the nature of the transportation business is such that the demand for simplicity, uniformity and stability is necessarily controlling because even a slight variation in basic rates would open the way to uncertainty in the minds of the riding public and would result in personal and local discrimination. *In re Milw. Suburban & Interurban Ry. Rates*, 475, 489–490.

Making rates—Elements considered—Traffic conditions.

5. It has been contended in the instant case by representatives of various localities that the patrons of those separate lines or sections of lines having a higher traffic density and operating upon a better revenue basis should be granted fares lower than the fares computed upon a mileage basis. It is difficult, however, to see the justice of establishing such fares, especially when it is the object of this revision of existing rates to abolish, so far as practicable for the present, all special fares involving local discrimination, and to bring about simplicity, uniformity and stability in the rate schedule applying to these lines by disregarding any differences in revenues or operating conditions. *In re Milw. Suburban & Interurban Ry. Rates*, 475, 489.

Reasonableness of rates in particular cases.

6. The T. M. E. R. & L. Co. and the M. L. H. & T. Co. ask that the Commission determine and prescribe reasonable uniform tariffs and schedules of rates for the suburban and interurban transportation service rendered by the two companies. The companies take this action at the suggestion of the Commission in order to dispose in one proceeding of the formal complaints covered in the present opinion and decision and a number of informal complaints which have been made, and to avoid future complaints by eliminating the discriminatory features of the suburban and interurban rate schedules now in effect. The remaining formal petitions listed in the title to this proceeding relate respectively to: (1) the round trip rates between Calhoun and West Allis and Calhoun and Milwaukee, which are alleged to be discriminatory as compared with more favorable rates over the same line between Waukesha and the same points; (2) the single fare limits in Wauwatosa, as recommended by the Commission and as required by the franchises under which the M. L. H. & T. Co. operates in Wauwatosa; (3) the alleged necessity of extending the limit for commutation tickets between the city of Racine and points in the town of Caledonia from Thielen stop to Four Mile road, a point about one-half mile north of Thielen stop, in order to make certain public places available as waiting stations; and, (4) and (5), the reasonableness of the suburban fares in effect between Milwaukee and West Allis, especially with respect to certain single fare limits which are alleged to discriminate unjustly against certain districts and to cause congestion of traffic and hence inadequate service in other districts. *Held:* The rates of fare charged by the T. M. E. R. & L. Co. and the M. L. H. & T. Co. for the suburban and interurban service involved in the present proceeding are unjustly discriminatory. The companies are therefore authorized to put into effect for this service schedules of rates determined by the Commission. These schedules include: (1) rates for suburban passenger service to and through the cities of West Allis and Wauwatosa and on the Wanderer's Rest Cemetery line, to and through the city of North Milwaukee, Whitefish Bay and Fox Point, South Milwaukee and Tippecanoe, and rates for local suburban hauls originating and terminating beyond the single fare limits of the city of Milwaukee; (2) rates through interurban passenger service upon the Milwaukee-Waukesha-Oconomowoc-Watertown line, the Milwaukee-Muskego Lakes-East Troy line, the Milwaukee-Waterford-Burlington line and the Milwaukee-Racine-Kenosha line; and (3) provision for the sale of tickets in packages for the payment of fares between points within the single fare limits of the city of Milwaukee and Marquette Boulevard in the city of South Milwaukee and for the sale of mileage books for the payment of interurban and suburban fares. Single fare limits for the city of Milwaukee are prescribed and all overlapping fare zones are to be abandoned. "Through interurban passenger service" upon the Milwaukee-Waukesha-Oconomowoc-Watertown line, the Milwaukee-Muskego Lakes-East Troy line and the Milwaukee-Waterford-Burlington line is defined as passenger service between any point within the single fare limits of Milwaukee and points beyond Woodlawn Stop, and upon the Milwaukee-Racine-Kenosha line as passenger service between any point within the single fare limits of Milwaukee and points beyond South Limits, South Milwaukee. The rates prescribed for suburban passenger service are based upon the city fare with an addition of 2 cts. for each 2 ct. zone, as determined by the Commission, traveled beyond the single fare limits of the city of Milwaukee. Passengers paying these rates are to be entitled to the privilege of the usual transfers within the single fare limits of the city of Milwaukee and upon the several suburban lines. The rate prescribed for through interurban passenger service is a uniform charge of 2 cts. per mile computed to

the nearest 1 ct. for the actual mileage, except the mileage included within the single fare limits of Milwaukee, for which the charge is in every case to be computed at 4 cts., and the mileage included within certain limits in Waukesha, Watertown, Burlington and Racine. The rate of fare per passenger for interurban service between points without the single fare limits of the city of Milwaukee is to be the difference between the through rates to these points. The minimum fare for any haul is to be 5 cts. Every interurban fare from or to Milwaukee, Racine, Kenosha, Burlington, Waukesha, Oconomowoc and Watertown is to entitle the passenger to the usual transfer privilege within the single fare limits of such cities where such privilege exists. The sale of all commutation and reduced round trip tickets which may now be in force is to be abandoned. The tickets to South Milwaukee authorized by the present order to be sold in packages are to be sold in packages of 20 for $2.50 and each ticket is to be good for one continuous ride between the points named, with privilege of transfers within the distance included. These tickets are to be sold for one year after date of installation. The mileage books authorized are to be for 300 miles at 1.8 cts. per mile, or $5.40 per book, and are to be good for the payment of any interurban or suburban fare, provided that the minimum fare thus payable shall amount to a five mile "tear." All complaints and petitions named in the present proceedings are dismissed insofar as they are not satisfied or granted by this order and insofar only as they relate to rates of fare for suburban and interurban passenger service. It is recommended, however, that the companies provide for a single fare of five cents to apply within the city limits of West Allis. The order is in no wise to affect or alter the rates now in effect for private, funeral, or chartered car service, or the present reduced "party rates" for passenger service, or rates for any service other than the carrying of passengers. *In re Milw. Suburban & Interurban Ry. Rates*, 475, 498–517.

RATES—RAILWAY.

See also REPARATION; SWITCHING CHARGES; various commodity subject headings; WEIGHTS.

Unreasonable rates, reparation for, *see* REPARATION.

In general—Power of Commission to regulate rates.

1. The Commission cannot relieve a shipper from the payment of the lawful established tariff charges. To do so would be the equivalent of suspending the operation of the statute, which is not within the power of the Commission. It only has authority to authorize refunds when the payments made are found to be exorbitant, unusual, illegal or erroneous. *Paine Lbr. Co. Ltd. v. C. & N. W. R. Co.* 633, 634.

Commodity rates.

Commodity rates, establishment of, on beer, Milwaukee to Fond du Lac and Oshkosh, *see post*, 18.

Concentration rates.

Concentration rates on grain, Wisconsin points on the C. & N. W. Ry. to Janesville, *see post*, 29.

Demurrage charges.

Payment of, Commission without power to relieve shipper from payment of lawful established tariff charges, *see post*, 24.

Reasonableness of demurrage charges for delays caused by floods, *see post*, 24.

Group or blanket rates.
See post, 33.

Joint or through rates.
2. It may be assumed as a general rule in tariff making that where two or more railroad lines are used the joint rate should be less than the sum of the several rates. The joint rate should, however, be higher than the one-line-haul rate because of the added terminal or transfer costs incurred in a joint haul. *Pulp & Paper Mfrs. Traffic Assn. v. C. & N. W. R. Co. et al.* 735, 737.

Joint or through rates—Division of joint rates.
3. The petitioner asks for a reapportionment of the joint rates in effect between it and the respondent, as provided by the order in *Bowar et al. v. C. & S. C. R. Co. et al.* 1911, 6 W. R. C. R. 693, on the ground that the division of rates prescribed is confiscatory of its property. The petitioner, under this division, was to receive a mileage pro rata, with a minmum of 25 per cent, but not more than 25 per cent of the current rates to and from Milwaukee nor more than the local rate to or from the junction with the respondent's line. Since the filing of the petition and the hearing in the case the petitioner has passed into the hands of a receiver and its property has been purchased by new owners. *Held:* Inasmuch as the successors of the petitioner have given no notice of their intention to become a party to the present complaint the petition must be dismissed, but the matter may be taken up again at the instance of either party. *Cazenovia & Sauk City R. Co. v. C. & N. W. R. Co.* 744, 748.

Joint or through rates—Establisment of joint rates.
Joint rates on limestone, Waukesha to Wisconsin points, *see post*, 34.
on tile and on brick and tile, Wisconsin points, *see post*, 47.
on wood, Wisconsin points, *see post*, 50.

Making rates—Elements considered—Comparative data.
4. The Commission will not undertake to determine the reasonableness of rates by mere comparison with other existing rates. *Locke v. C. & N. W. R. Co.* 366, 367.

Making rates—Elements considered—Competitive conditions.
5. The Commission will not undertake to adjust rates in order to remove competitive disadvantages due to location. *Locke v. C. & N. W. R. Co.* 366, 367.

6. After the costs have been given due weight, one other matter enters into the question of reasonableness of rates, namely, competitive conditions. Not infrequently the regular rate of transportation would entirely prevent commodities from moving and it may often be to the best interests of the carriers and the community alike that these conditions be taken into account in the final rate adjustment. *Wausau Advancement Ass'n v. C. M. & St. P. R. Co.* 527, 530.

Making rates—Elements considered—Cost of service.
7. It is urged in support of the petition in the instant case that the movement of limestone used for agricultural purposes should be encouraged because of the benefit to the state arising from increased fertility. The Commission heartily concurs in the theory that increased productivity of agricultural lands is of large benefit to the community, but it is inclined to doubt that the movement of any commodity should, except under unusual circumstances, be encouraged by a rate so low as to fail to return to the carrier the costs of the service, thus throw-

ing a burden on the transportation of other commodities. In the instant case, however, it is possible to put into effect joint rates which will be remunerative to the carrier and still be such as to encourage the movement throughout the state of the commodity in question. *Waukesha Lime & Stone Co. v. M. St. P. & S. S. M. R. Co. et al.* 471, 473.

8. The petitioner in the instant case bases his case for a reduction of the rates in question upon comparisons of these rates with those to other points, but the Commission has repeatedly declared that the comparative basis alone is not always a safe one for rate making and that the best test of the reasonableness of a rate is usually found in the cost of service, including operating expenses, allowance for depreciation and return on investment. *Wausau Advancement Ass'n v. C. M. & St. P. R Co.* 527, 530.

Making rates—Elements considered—Length of haul.

9. In general it is true and in line with correct principles of rate making that the rate per ton-mile for short hauls is higher than the rate for long hauls. The reason for this is to be found in the fact that terminal expenses remaining constant, the total cost in the case of short hauls must be borne by a smaller number of ton-miles, thus increasing the cost per unit. *Wausau Advancement Ass'n v. C. M. & St. P. R. Co.* 527, 531.

Making rates—Elements considered—Movement expenses.

See post, 12.

Making rates—Elements considered—Nature of transportation business.

10. The nature of the transportation business is such as to make simplicity, uniformity and stability in rate schedules desirable. The basic rate for regular passenger fares upon the steam lines within the state, for example, is 2 cts. per passenger mile and with few exceptions the fares are computed accordingly whether the company is large or small, whether the haul is long or short, whether the traffic is profitable or unprofitable, or whether the service is poor or excellent. If all these factors cited should be reflected in full force in the rates the probability is that the rates would vary all the way from 0.5 of a cent per mile to 50 cts. per mile. But the nature of the transportation business is such that the demand for simplicity, uniformity and stability is necessarily controlling because even a slight variation in basic rates would open the way to uncertainty in the minds of the riding public and would result in personal and local discrimination. *In re Milw. Suburban & Interurban Ry. Rates*, 475, 489–490.

Making rates—Elements considered—Prevention of monopoly of natural resource.

See post, 15–16.

Making rates—Elements considered—Public policy with respect to prevention of monopoly of natural resource.

See post, 15–16.

Making rates—Elements considered—Relation of rate to rates to intermediate points.

11. In the instant case the respondent objected to the reduction of the rates in question on the ground that their reduction would necessitate a reduction in the rates to intermediate points. *Held:* "It appears

that in this particular case the conditions are such that this fact alone should not be permitted to prevent the lowering of the rates complained of, if such action is warranted on such other grounds as would otherwise be accepted as good reasons for the reductions. The opposite course would simply mean that no change in these rates, no matter how necessary, could be made except upon investigations that are comprehensive enough to cover all rates directly or indirectly affected by such changes. If this view was consistently taken in all cases of this kind, regulation might be found to be so inelastic as to subserve no practical purpose, and so out of line with public policy as to be directly harmful." (*Wisconsin Box Co. et al. v. C. M. & St. P. R. Co. et al.* 1909, 3 W. R. C. R. 605, 619.) *Wausau Advancement Ass'n v. C. M. & St. P. R. Co.* 527, 532–533.

Making rates—Elements considered—Terminal and movement expenses.

12. In addition to general considerations of cost, a rate to be reasonable should take into account any special conditions which may operate to either increase or decrease the cost of handling above the average of all traffic, such as the amount of terminal handling required, the kind of equipment required, the regularity and amount of such traffic, and many other considerations. *Wausau Advancement Ass'n v. C. M. & St. P. R. Co.* 527, 530.

Milling of transient rates.

Milling in transit rates in grain, Wisconsin points on the C. & N. W. Ry. to Janesville, *see post*, 29.

Payment of rates—Commission without power to relieve shipper from payment of lawful established tariff charges.

13. The Commission cannot relieve a shipper from the payment of the lawful established tariff charges. To do so would be the equivalent of suspending the operation of the statute, which is not within the power of the Commission. It only has authority to authorize refunds when the payments are found to be exorbitant, unusual, illegal or erroneous. *Paine Lbr. Co. Ltd. v. C. & N. W. R. Co.* 633, 634.

Reasonableness of rates—Matters considered in determining reasonableness—Commercial conditions.

14. It must not be forgotten that the present system of rates is of long standing and that business has adjusted itself to these rates. It follows, then, that what changes must be made in the interest of justice between all parties concerned, must be made slowly and with due regard to relationships and values created in the past by the rates which in themselves contain the elements of discrimination. *Waukesha Lime and Stone Co. v. C. M. & St. P. R. Co. et al.* 534, 536–537.

Reasonableness of rates—Matters considered in determining reasonableness—Prevention of monopoly of natural resource.

15. It is against public policy to permit a railroad company to put into effect rates which will operate to seclude large timber resources for its sole benefit and exclude from sharing in those resources other portions of the state which have an equal need for them, for such action would lead to monopoly of the most offensive sort. In general it is the plain duty of transportation to do all that it may to lessen the inequalities existing between industries located in close proximity

to the raw material they require and industries further removed from their sources of supply. *Pulp & Paper Mfrs. Traffic Ass'n v. C. & N. W. R. Co. et al.* 735, 739.

16. "There may be no objection to having railways exert every proper effort to favor enterprises upon their lines. It may even be laudable to do so. Yet, when this ambition to maintain the integrity of an isolated railway domain and to foster the men and industries within that domain goes to the extent of establishing artificial trade relations and exclusive markets, the right to continue to pursue such a policy may well be drawn in question." (*Wis. Retail Lbr. Dealers Ass'n v. C. & N. W. R. Co. et al.* 1909, 3 W. R. C. R. 471, 481.) *Pulp & Paper Mfrs. Traffic Ass'n v. C. & N. W. R. Co. et al.* 735, 740.

Reasonableness of rates—Matters considered in determining reasonableness—Voluntary establishment of rate by company.

17. The fact that two other railroad companies jointly established the rate in question of their own accord and the further fact that the respondent company, after complaint had been filed, established the rate voluntarily, point to the reasonableness of the rate. *Wausau Box & Lumber Co. v. C. & N. W. R. Co.* 698, 700.

Reasonableness of rates in particular cases—Beer, Milwaukee to Fond du Lac and Oshkosh.

18. The petitioners allege that the rate of 12½ cts. per 100 lb. on beer from Milwaukee to Fond du Lac and Oshkosh is unjust, unreasonable and exorbitant. This rate is a fifth class rate applying to beer in carloads. Certain other points in Wisconsin situated similarly to Fond du Lac and Oshkosh are given a commodity rate of 10 cts. per 100 lb. on beer from Milwaukee. *Held:* There is no reason apparent for refusing to grant Oshkosh and Fond du Lac the commodity rate enjoyed by other stations similarly situated. The respondents are therefore ordered to put into effect a commodity rate of 10 cts. per 100 lb., subject to the minimum weight of 30,000 lb. per car, on shipments of beer from Milwaukee to Oshkosh and Fond du Lac. *Pabst Brewing Co. et al. v. C. M. & St. P. R. Co. et al.* 42, 46.

Reasonableness of rates in particular cases—Beer, Wausau to Tomahawk and Minocqua.

19. The petitioner alleges that the respondent's rates for the transportation of beer in carloads from Wausau to Tomahawk and Minocqua are unreasonable and unjustly discriminatory when compared with rates enjoyed by Milwaukee competitors of Wausau brewers. *Held:* The respondent's present rates on beer in carloads from Wausau to Tomahawk and Minocqua are unreasonably high, whether considered in relation to the cost of service or in comparison with similar rates elsewhere. The respondent is ordered to put in effect a rate of 9 cts. per 100 lb. for shipments from Wausau to Tomahawk and 11 cts. per 100 lb. for shipments from Wausau to Minocqua. *Wausau Advancement Ass'n v. C. M. & St. P. R. Co.* 527, 533.

Reasonableness of rates in particular cases—Boxes, Wausau to New London.

20. The petitioner alleges that the respondent has exacted for the transportation of wooden boxes, in carloads, from Wausau to New London rates and charges which are unjust and unreasonable when compared with rates exacted for the transportation of the same commodity between similar points in Wisconsin and asks for refund on certain

shipments. The charges complained of were based on the published tariff of the respondent but the rates on lumber and the box rates depending on the lumber rates have been voluntarily reduced by the respondent since the shipments moved. *Held:* The charges complained of were excessive and unreasonable. Refund is ordered on the basis of the rates now in effect. *Wausau Box & Lumber Co. v. C. & N. W. R. Co.* 698, 701.

Reasonableness of rates in particular cases—Boxes and lumber, Wausau to New London.

See post, 35.

Reasonableness of rates in particular cases—Brick, and tile and brick, Wisconsin points.

See post, 47.

Reasonableness of rates in particular cases—Building materials, Milwaukee to West Milwaukee.

21. The petitioner alleges that the charge assessed by the respondent for the transportation of 6 carloads of material for use in the construction of a paint and plating shop for the respondent at West Milwaukee was unusual and exorbitant and contends that the charge should have been made on a switching basis, inasmuch as the length of the haul was only one and a half miles and other points in the immediate vicinity and beyond are placed on a switching basis. When the shipments in question moved the respondent's switching tariff provided for switching rates between industries named in the tariff, but the consignee in the instant case, not being named in the tariff, was not entitled to receive the switching rates and was charged the distance rate for five miles or less. The respondent, however, subsequently modified its tariff to eliminate the discrimination presented by such cases. *Held:* The charge complained of was unusual and exorbitant. The reasonable charge would have been $5 per car. *Milwaukee Structural Steel Co. v. C. M. & St. P. R. Co.* 673, 675.

Reasonableness of rates in particular cases—Car stakes, Rhinelander to Armstrong Creek.

22. The petitioner alleges that it was erroneously charged for the transportation of three carloads of car stakes over the respondent's line from Rhinelander to Armstrong Creek. The car stakes were furnished and shipped by the petitioner for the use of the respondent in moving pulp wood for the petitioner. When the shipments moved the respondent's tariff relating to shipments of saw logs between points within the state provided that car stakes so transported should be returned and delivered to consignee without charge. *Held:* The charges exacted of the petitioner were unusual. Refund is ordered. *Rhinelander Paper Co. v. M. St. P. & S. S. M. R. Co.* 84, 85.

Reasonableness of rates in particular cases—Coke, Racine to North Fond du Lac.

23. The petitioner complains of the routing given a car of coke transported by the respondents from Racine to North Fond du Lac and asks for refund of the excess of the charge exacted above the charge which the petitioner alleges should have been assessed if the car had been properly routed. The car moved via the C. & N. W. Ry. from Racine to Waukesha and via the M. St. P. & S. S. M. Ry. from Waukesha to North Fond du Lac, and the total charge assessed includes the sum of the local rates plus the switching charge of a connecting line. The

petitioner contends that the shipment should have moved via the C. & N. W. Ry. to Fond du Lac and that the reasonable switching charge which should have been made by the M. St. P. & S. S. M. Ry. Co. for delivery at North Fond du Lac should have been absorbed by the C. & N. W. Ry. Co. *Held:* Although the shipment in question, in view of a carrier's obligation to choose the route having the less distance when the carrier has the choice of two possible routings, should have moved via Fond du Lac, the charge for transportation by this route would have been identical with the charge actually exacted. The petitioner has therefore suffered no injury and his petition, insofar as it relates to the matter of refund, is dismissed. It is recommended that the M. St. P. & S. S. M. R. Co. establish a switching rate of $5 per car between Fond du Lac and North Fond du Lac. *Callaway Fuel Co. v. C. & N. W. R. Co. et al.* 694, 697.

Reasonableness of rates in particular cases—Crushed stone and gravel, Waukesha to Wisconsin points.

See post, 31.

Reasonableness of rates in particular cases—Demurrage charges for delay in unloading caused by flood.

24. The petitioner complains of a bill presented to it for demurrage accrued on a number of cars loaded with logs. These cars petitioner was unable to unload into the river as usual because of the existence of a flood. He contends that the flood should be construed as an Act of God and that he should therefore be relieved from the payment of the demurrage. The demurrage rules in the respondent's tariffs make no exception for cases of delay caused by floods. *Held:* The Commission cannot relieve a shipper from the payment of the lawful established tariff charges but can only authorize refunds after the payments have been made and have been found to be exorbitant, unusual, illegal or erroneous. If the petitioner considers the respondent's demurrage rules as unreasonable its proper course of action is to pay the demurrage and apply for a refund. The petition is dismissed. *Paine Lbr. Co. Ltd. v. C. & N. W. R. Co.* 633, 634.

Reasonableness of rates in particular cases—Excelsior, Rice Lake to Waukesha.

25. The petitioner alleges that the respondent charged it at the rate of 13½ cts. per 100 lb., subject to a minimum weight of 30,000 lb. per car, for the transportation of two cars of excelsior from Rice Lake to Waukesha, instead of at the rate of 11½ cts. per 100 lb., subject to a minimum weight of 20,000 lb. per car, provided in the respondent's tariff. The respondent admits these allegations and joins in the prayer for relief. *Held:* The charge complained of was illegal and erroneous. Refund is ordered on the basis of the proper charge of 11½ cts. per 100 lb. *Selle & Co. v. M. St. P. & S. S. M. R. Co.* 635, 636.

Reasonableness of rates in particular cases—Farm trucks, Wisconsin points.

See post, 26.

Reasonableness of rates in particular cases—Farm wagons, farm trucks, gasoline engine trucks, logging trucks and extra wagon boxes, Wisconsin points.

26. The petitioners allege that the classification by the respondents of farm wagons (complete), farm trucks, gas engine trucks and extra wagon boxes and parts as first class is unjust and unreasonable. Prior

to Feb. 14, 1913, farm wagons, knocked down, in less than carload lots, were rated as first class and farm trucks, knocked down, in less than carload lots, were rated as third class. On the date named western classification No. 51 went into effect raising farm trucks to first class, thus rating them and farm wagons alike. This classification was subsequently replaced by western classification No. 52, but the latter does not differ materially from the former as to the points here at issue. Both the petitioners and the respondents are agreed that a uniform rating upon farm trucks and farm wagons is desirable in order to avoid confusion, but the petitioners contend that the two commodities should be rated as second class instead of first class, on the ground that the raising of farm trucks from third class to first class will unreasonably increase the price of farm trucks to the retail purchaser. *Held:* The classification of farm trucks as first class is not justifiable. The classification of both farm trucks and farm wagons as second class, however, is reasonable. The respondents are therefore ordered to discontinue the first class rating on farm wagons, farm trucks, logging trucks, and gasoline engine trucks, knocked down, and on parts thereof, including wagon boxes, knocked down, and to substitute therefor the second class rating. *Northwestern Mfg. Co. et al. v. C. & N. W. R. Co. et al.* 751, 755.

Reasonableness of rates in particular cases—Fuel, wood, Kennan to Phillips.

27. The petitioner (1) alleges that the rate of 4 cts. per cwt. exacted by the respondent for the transportation of 4 cars of fuel wood from Kennan to Phillips was excessive to the extent that it exceeds a rate of 3 cts. per cwt. and (2) prays that a rate of 3 cts. per cwt. be established for fuel wood moving between Kennan and Phillips. The respondent states that it is preparing a new fuel wood distance tariff providing a rate of 3 cts. for a distance of 30 miles and expresses its willingness to make the refund requested. *Held:* The rate complained of is unreasonable. A reasonable rate would not exceed 3 cts per cwt. It is therefore ordered: (1) that the respondent put into effect a rate of 3 cts. per cwt. on fuel wood in carloads from Kennan to Phillips. *Sullivan v. M. St. P. & S. S. M. R. Co.* 687, 689.

Reasonableness of rates in particular cases—Gasoline engine trucks, Wisconsin points.

See ante, 26.

Reasonableness of rates in particular cases—Grain, Richfield to Milwaukee.

28. The petitioner alleges that the rate of 4 cts. per 100 lb., charged by the respondent for carload shipments of grain from Richfield to Milwaukee, is erroneous, illegal, unusual and exorbitant and asks that the rate of 3½ cts. applying over the M. St. P. & S. S. M. Ry. for shipments from Duplainville, Templeton and Colgate to Milwaukee be established, and that refund be authorized on certain shipments made by the petitioner. Since the hearing the rate on grain to Milwaukee from the points named and other nearby points competing with Richfield has been changed from 3½ cts. to 4 cts. by all railroads passing through these points, and the petitioner is satisfied with this adjustment. Only the matter of reparation, therefore, remains to be determined by the Commission. *Held:* The petitioner is entitled to reparation. Refund is accordingly ordered on the basis of the 3½ ct. rate. *Wolf v. C. M. & St. P. R. Co.* 375, 377.

Reasonableness of rates in particular cases—Grain, Wisconsin points on the C. & N. W. Ry. to Janesville.

29. The petitioner alleges that the refusal of the respondent to absorb the connecting line switching charges on the in-movement of carload shipments of grain stopped in transit to be milled at the petitioner's mill at Janesville and reshipped over the respondent's line is unreasonable and that this refusal results in the exaction of exorbitant charges. The petitioner also asks for refund on certain shipments. The respondent formerly absorbed the switching charges in question but in a tariff effective Aug. 2, 1912, adopted a rule abandoning this practice. All shipments over the respondent's lines delivered to the petitioner have to be switched over the tracks of the C. M. & St. P. Ry. Co. as the respondent's tracks do not extend to the petitioner's mill. The present rule on switching charges was approved by the Commission in the belief that the respondent's statement that the old rule caused considerable confusion among its local agents and that there would be very few instances where the respondent would get a haul on a shipment of grain to be milled at an industry located on another line was correct. It appears, however, that in the case of the present petitioner shipments of this kind are numerous. The respondent contends in its answer to the petitioner: (1) that the business covered by the complaint was chiefly interstate; (2) that the milling-in-transit of grain was a privilege granted to shippers at a considerable expense to the company; and (3) that it generally required twice as many cars to ship out the mill product as to bring the grain. The practices of other railway companies in Wisconsin with respect to the absorption of switching charges show a lack of uniformity but the respondent appears to be the only important railway company in the state which does not absorb switching charges at the stopping point on any shipment stopped in transit for any purpose. The net cost to the respondent in having to pay the connecting line switching charge is not the full amount paid the connecting line but only such part of this amount as exceeds what it would cost the respondent to perform the same service if the respondent operated the facilities used. *Held:* The respondent's rule in force prior to Aug. 2, 1912, providing for the absorption of the switching charges of connecting lines at the stopping point on the in-movement of grain stopped in transit to be milled should be reinstated and all charges brought about by the change in this rule on the date named should be refunded. Inasmuch, however, as the data submitted with respect to the charges complained of do not show whether the shipments involved were intrastate or interstate, the Commission cannot authorize refund at this time. It is ordered that the respondent cease and desist from requiring the petitioner to pay connecting line switching charges, except as may be necessary for the protection of minimum revenues now provided for in case of other shipments, on the in-movement of grain stopped to be milled, etc. at Janesville, the product thereof to be forwarded against transit account. *Blodgett Milling Co. v. C. & N. W. R. Co.* 782, 789.

Reasonableness of rates in particular cases—Granite blocks, Ablemans to Milwaukee.

30. The petitioner alleges that the charge of 6 cts. per cwt. exacted by the respondent for the transportation of 77 carloads of granite blocks from Ablemans to Milwaukee is unusual and exorbitant and asks for refund of the excess of the amount collected above the amount assessable on the basis of a rate of 4 cts. per cwt. which the petitioner alleges is a reasonable rate, the rate now in effect and the rate in effect at the time the shipment moved from Red Granite, Montello,

Stevens Point and other Wisconsin points to Milwaukee and Chicago. *Held:* For reasons stated in *Milwaukee Sand Stone Co. v. C. & N. W. R. Co.* 13 W. R. C. R. 671, the charge complained of was unusual and exorbitant and the rate of 4 cts. per cwt. is a reasonable rate for the services rendered. *White Rock Quarry Co. v. C. & N. W. R. Co.* 669, 670.

Reasonableness of rates in particular cases—Gravel and crushed stone, Waukesha to Wisconsin points.

31. The complainant alleges that it was overcharged for the transportation of a number of carloads of gravel and crushed stone, from Waukesha to various points, through the action of the C. & N. W. Ry. Co. in failing to absorb switching charges out of a $15 line haul earning; applying the marked capacity of the car as the minimum weight for carload shipments; applying rates on file at the time, but subsequently reduced as unreasonable by the Commission, to shipments moving prior to July 27, 1912. *Held:* 1. The absorption of switching charges by the C. & N. W. Ry. Co. out of line haul earnings, insofar as possible without reducing the latter below $15, is correct according to the company's tariffs and is reasonable. 2. The application of the marked capacity of the car as the minimum weight for carload shipments, though correct according to the company's tariff put into effect for carload shipments of sand and gravel in compliance with the Commissioner's order of June 24, 1912, 9 W. R. C. R. 347, was unreasonable and is contrary to the present practice of the respondent company and other carriers in fixing the minimum weight at 90 per cent of the marked capacity of the car, which would have been reasonable in the instant case. 3. The rates ordered by the Commission on June 24, 1912, 9 W. R. C. R. 347, were reasonable at the date of the earliest movement of carloads of stone and gravel over which the Commission has jurisdiction under the present complaint. *Waukesha Lime & Stone v. C. & N. W. R. Co. et al.* 368, 371.

Reasonableness of rates in particular cases—Gravel and sand, Janesville to Wisconsin points on the C. M. & St. P. Ry.

See post, 38.

Reasonableness of rates in particular cases—Hay, Wisconsin points on the C. & N. W. Ry.

32. The complainant alleges that the respondent charged it an unjust and unreasonable rate for the transportation of hay in carloads between certain points in Wisconsin. The rate complained of was declared excessive in *Wausau Advancement Association v. C. & N. W. R. Co.* 1913, 12 W. R. C. R. 438. The shipments in question were involved in the complaint in the case cited but refunds were not authorized for the reason that the petitioner in that case was not a "person aggrieved" within the meaning of the law. *Held:* The shipments should have moved at the rate of 10 cts. per 100 lb., found to be reasonable in the case cited above. Refund is ordered on this basis for such shipments as moved within the then statutory period of one year previous to the time the complaint was filed. *Northern Milling Co. v. C. & N. W. R. Co.* 468, 470.

Reasonableness of rates in particular cases—Lime, Rockfield to Wisconsin points designated on the C. & N. W. Ry.

33. The petitioner alleges that certain rates on lime, granted in the case of the *Waukesha Lime & Stone Co. v. C. & N. W. R. Co.* (1913, 11 W. R. C. R. 419) for shipments from Waukesha, unduly discriminate against the petitioner, and prays that the rates for shipments of lime

from Rockfield, at which point the petitioner is located, to Racine, Kenosha, and other points be made the same as the rates granted by the Commission for shipments from Waukesha to these points. The petitioner is in competition with the Waukesha Lime & Stone Co. and, prior to the issuance of the order mentioned, enjoyed the same rates to Racine, Kenosha and other points as did the Waukesha company. Except in a few instances, the distances from Waukesha and Rockfield to the points in question differ considerably. To some of these points, however, the rate under the prevailing group rate system on lime should, perhaps, be the same from both places. *Held:* To more nearly equalize conditions, some adjustment of the present rates is necessary. The respondent is therefore ordered to put into effect rates prescribed by the Commission for shipments of lime in carloads from Rockfield to the stations named in the order, these rates to be subject to the same minimum weights and rules of transportation as are now in effect. *Mace Lime Co. v. C. & N. W. R. Co.* 38, 41.

Reasonableness of rates in particular cases—Limestone, Waukesha to Wisconsin points.

34. Petition is made for the establishment of joint rates on lime stone used for agricultural purposes shipped from Waukesha to stations on the respondents' lines. It is urged in support of the petition that the movement of the commodity in question should be encouraged because of the benefit to the state arising from increased fertility. The Commission heartily concurs in the theory that increased productivity of agricultural lands is of large benefit to the community, but it is inclined to doubt that the movement of any commodity should, except under unusual circumstances, be encouraged by a rate so low as to fail to return to the carrier the costs of the service, thus throwing a burden on the transportation of other commodities. In the instant case, however, it is possible to put into effect joint rates which will be remunerative to the carrier and still be such as to encourage the movement throughout the state of the commodity in question. The respondents are ordered to put into effect for interline shipments of limestone for agricultural purposes from Waukesha to points on their lines a tariff of joint rates determined by the Commission. This tariff is based on the distance tariff for carloads of sand, crushed stone and gravel shipped from Waukesha ordered in *Waukesha Lime & Stone Co. v. C. M. & St. P. Co. et al.* 1912, 9 W. R. C. R. 87–99 and 347–353, and *In re Investigation Rates on Sand etc. on C. M. & St. P. R.* 1912, 11 W. R. C. R. 98–100, but is modified by the addition of a charge to cover the expense of transfer at junction points. *Waukesha Lime & Stone Co. v. M. St. P. & S. S. M. R. Co. et al.* 471, 474.

Reasonableness of rates in particular cases—Logging trucks, Wisconsin points.

See ante, 26.

Reasonableness of rates in particular cases—Lumber and wooden boxes, Wausau to New London.

35. The petitioner alleges that the rates charged by the respondent for the transportation of lumber and wooden boxes from Wausau to New London are unjust and unreasonable as compared with corresponding rates to other points and asks that the respondent be directed to make refund of alleged excessive charges to certain shippers. Since the hearing the respondent has reduced its rates on lumber and wooden boxes from Wausau to New London to the point claimed as reasonable by the petitioner. The charges upon which refunds are asked were based upon lawful rates. *Held:* The Commission is without power to

decide upon the merits of complaints against lawful charges or to authorize refund of any part of such charges except on complaint of a person aggrieved by the exaction of the charges. Inasmuch as the petitioner in the instant case is not a person aggrieved and therefore entitled to ask for refund and inasmuch as a change in rates which satisfies the petitioner has been made, the petition is dismissed. *Wausau Advancement Ass'n v. C. & N. W. R. Co.* 772, 774.

Reasonableness of rates in particular cases—Pulp, Rothschild to Brokaw.

36. The petitioner alleges that the respondent exacted a rate of 3 cts. per cwt. for the transportation of eight cars of ground wood pulp shipped from Rothschild to Brokaw between July 11, 1912, and August 3, 1912, and prays for the refund of the excess of the charges paid above the charges assessable on the basis of the 2 ct. rate prescribed by the Commission for shipments of the kind in question in its order of July 11, 1912 (9 W. R. C. R. 400). The respondent admits the overcharges alleged insofar as the three cars moved after the Commission's order became effective on July 31, 1912, are concerned and has adjusted these overcharges with the petitioner. The respondent contends, however, that the rate of 3 cts. per cwt. was properly assessed on the five shipments which moved prior to July 31, 1912. *Held:* The rate of 2 cts. per cwt. fixed in the order of July 11, 1912, to become effective on July 31, 1912, was reasonable as far back as July 11, 1912. *Wausau Paper Mills Co. v. C. M. & St. P. R. Co.* 690, 693.

Reasonableness of rates in particular cases—Sand, Portage to Milwaukee and to Racine.

37. The petitioner alleges that the respondent overcharged it for the transportation of two carloads of sand from Portage to Milwaukee and one carload of sand from Portage to Racine, in that the respondent wrongly classified the sand as moulding sand and applied a rate later made applicable only to moulding sand. It appears that the respondent's tariff at the time the shipments moved provided one rate for all grades of sand but that subsequently a new tariff was put into effect which maintained this rate for moulding sand but fixed lower rates for other sand. *Held:* The charges complained of were excessive. The reasonable rate for the transportation of the two cars of sand from Portage to Milwaukee would have been the present distance rate of 2.82 cts. per cwt. for sand other than moulding sand moving a distance of ninety-five miles and the reasonable rate for the transportation of the car of sand from Portage to Racine would have been the present distance tariff rate of 3.2 cts. per cwt. for sand other than moulding sand. *Moritz v. C. M. & St. P. R. Co.* 684, 686.

Reasonableness of rates in particular cases—Sand and gravel, Janesville to Wisconsin points on the C. M. & St. P. Ry.

38. The petitioner complains that the respondent exacted charges for the transportation of certain carload lots of sand and gravel from Janesville to points within Wisconsin which were higher than the rates prescribed by the Commission in *Waukesha Lime & Stone Co. v. C. M. & St. P. R. Co.* 1912, 9 W. R. C. R. 86 and 347, and asks for refund and such further order as the Commission may deem necessary. It appears that the present case arises out of a misunderstanding, on the part of both the petitioner and the respondent, of the facts involved, inasmuch as the orders cited above prescribe rates for shipments from Waukesha only, although the Commission recommended that the rates ordered be made effective generally on the intrastate traffic of the railway companies affected. The present case, however, being brought in

good faith and upon what appear to be substantial grounds, is considered on its merits. The shipments in question moved before the order of Nov. 29, 1912, 11 W. R. C. R. 98, applying the rates prescribed for shipments of sand, gravel and crushed stone from Waukesha to similar shipments from all points on the respondent's line in Wisconsin, went into effect. *Held:* Inasmuch as the rate upon which the claim for reparation is based has already been held by the Commission, 11 W. R. C. R. 98, to be unreasonable and inasmuch as the respondent gave the petitioner reasonable assurance, upon which the petitioner relied, that the lower rate of the respondent's competitor would be met, refund should be granted. *So. Wis. Sand & Gravel Co. v. C. M. & St. P. R. Co.* 380, 389.

Reasonableness of rates in particular cases—Scrap iron, between Sheboygan Falls and Sheboygan and between Sheboygan and Milwaukee.

39. The petitioner alleges that the rates charged by the respondent for the transportation of scrap iron between Sheboygan Falls and Sheboygan and between Sheboygan and Milwaukee are unjustly discriminatory and excessive. *Held:* Although the Commission will not undertake to adjust rates for the purpose of removing competitive disadvantages due to location nor to determine the reasonableness of rates by mere comparison with other rates, the rates complained of must be regarded as excessive when the costs of performing the service and the return on the investment are considered. The respondent is therefore ordered to put into effect a rate of 2¾ cts. per cwt. on scrap iron and other scrap metals moving between Sheboygan and Sheboygan Falls and a rate of 4 cts. per cwt. on scrap iron and other scrap metals moving between Sheboygan and Milwaukee. *Locke v. C. & N. W. R. Co.* 366, 367.

Reasonableness of rates in particular cases—Slag, Milwaukee to Horicon.

40. The petitioner alleges that the respondent charged it an unusual and exorbitant rate for the transportation of certain carload shipments of slag from Milwaukee to Horicon. The rate in question, 5 cts. per 100 lb., was in accordance with the respondent's tariff at the time the shipments moved but has since been reduced to 50 cts. per ton of 2,240 lb. *Held:* The rate complained of was unusual and exorbitant. The rate of 50 cts. per ton of 2,240 lb. would have been adequate compensation for the service rendered. *International Harvester Corporation v. C. M. & St. P. R. Co.* 640, 641.

Reasonableness of rates in particular cases—Stone paving blocks, Ablemans to Milwaukee.

41. The petitioner alleges that the charges of 6 cts. per cwt. exacted by the respondent for the transportation of nine shipments of stone paving blocks from Ablemans to Milwaukee was excessive and prays for refund of the excess of the amount collected above the amount assessable on the basis of a rate of 4 cts. per cwt., which is the rate in effect for similar shipments moving from Red Granite, Montello, Stevens Point and other Wisconsin points to Milwaukee and Chicago. The respondent put the rate of 4 cts. in effect after the shipments in question moved and concedes that the petitioner's claim for reparation is valid. *Held:* The charge complained of was unreasonable and exorbitant. The reasonable rate would have been 4 cts. per cwt. *Milwaukee Sand Stone Co. v. C. & N. W. R. Co.* 671, 672.

Reasonableness of rates in particular cases—Switching charges, Fond du Lac, between Fond du Lac and No. Fond du Lac.

42. It appears in the instant case that no switching rates are now provided by the M. St. P. & S. S. M. Ry. Co. for hauls between Fond du Lac and No. Fond du Lac. The railway company, however, once expressed its willingness to put into effect a rate of $5 per car for this service and inasmuch as this appears to be a reasonable rate it is recommended that the company establish it for use in connection with traffic interchanged with the C. & N. W. Ry. at Fond du Lac. *Callaway Fuel Co. v. C. & N. W. R. Co.* 694, 697.

Reasonableness of rates in particular cases—Switching charges, Waukesha.

43. The complainant alleges that the charge of $4 per car exacted by the C. M. & St. P. Ry. Co. for local switching service at Waukesha is excessive. *Held:* The charge is reasonable. The petition is dismissed. *Waukesha Lime & Stone Co. v. M. St. P. & S. S. M. R. Co. et al.* 372, 374.

Reasonableness of rates in particular cases—Switching charges—Stone and gravel, Waukesha.

44. The complainant alleges that excessive and unreasonable charges were exacted from it for the movement of 31 cars from one of its plants located on the M. St. P. & S. S. M. Ry. in Waukesha to another plant located on the C. M. & St. P. Ry. in Waukesha. Only one of the 31 cars moved less than a year prior to the filing of the complaint, which was filed before ch. 66, laws of 1913, increasing the time in which such complaints may be filed from one year to two years, went into effect and therefore the charge on this car only can be considered. The charge in question was $7, made up of $5 for the services of the M. St. P. & S. S. M. Ry. Co. and $2 for the services of the C. M. & St. P. Ry. Co. The latter rate was according to tariff, but there is no tariff authority for the $5 charge, which should have been $4. The practice followed for many years by railroad companies in making switching movements for each other at rates less than those charged the public for similar services is likely to result in the imposition of unjust burdens on shippers in order to recoup losses thus sustained. Inasmuch, however, as the practice in question is one of long standing and as business has adjusted itself to it, such changes as are necessary in the interest of justice between the parties concerned should be made slowly. *Held:* The charge exacted was excessive. Six dollars would have been a reasonable charge and refund is ordered on that basis. *Waukesha Lime & Stone Co. v. C. M. & St. P. R. Co. et al.* 534, 537.

Reasonableness of rates in particular cases—Switching charges—Wood, Waukesha.

45. Complaint is made of certain charges which are exacted on carload shipments of slab wood, kiln wood and cordwood originating at Wisconsin points on the C. M. & St. P. and the C. & N. W. railroads and delivered to the complainant at its plant on the tracks of the C. M. & St. P. railroad at Waukesha. The complainant alleges: (1) that the charge of $4 per car for the service rendered by the C. M. & St. P. Ry. Co. and the M. St. P. & S. S. M. Ry. Co. in delivering cars brought into Waukesha by the C. & N. W. Ry. Co. is excessive by the amount that it exceeds $2; and (2) that the switching charges of the C. M. & St. P. Ry. Co. and the M. S. & P. & S. S. M. Ry. Co. should be absorbed by the C. & N. W. Ry. Co. out of a line haul charge of $15 per car instead of down to a net charge of $15 per car. *Held:* 1. The switching charge of

$4 is correct on the basis of the tariffs filed and is not unreasonable. 2. The absorption of switching charges down to a net line haul revenue of $15 is reasonable. The complaint is dismissed. *Waukesha Lime & Stone Co. v. C. & N. W. R. Co. et al.* 650, 652.

Reasonableness of rates in particular cases—Tanbark, Westboro to Milwaukee.

46. Complaint is made that excessive charges were exacted by the M. St. P. & S. S. M. Ry. Co. for the transportation of twelve carload shipments of tanbark from Westboro to Milwaukee. The shipments in question were loaded in box cars, for the purpose of making a test for the information of the Commission in deciding the case of *Barker & Stewart Lbr. Co. v. C. M. & St. P. R. Co.* 1913, 11 W. R. C. R. 537, of the amount of tanbark that could be loaded into this class of cars. Charges were assessed on the basis of the minimum rated capacity of the cars used, although the actual weight of the shipments, when the cars were loaded to full capacity, was less than the minimum weight applied. *Held:* The charges complained of should have been assessed on the basis of the rule which provides for the use of two cars for one when one car cannot be furnished to accommodate the minimum weight provided by tariff. *Barker & Stewart Lbr. Co. v. C. M. & St. P. R. Co. supra.* Refund is therefore ordered of the excess of the charges paid above what the charges would have been if based on the actual weight of the shipments. *Westboro Lbr. Co. v. M. St. P. & S. S. M. R. Co.* 378, 379.

Reasonableness of rates in particular cases—Tile, and brick and tile, Wisconsin points.

47. The petitioner alleges that the rates exacted by the respondents for the transportation of tile and of tile and brick in mixed carloads are excessive, unreasonable and unjust, and asks that rates be fixed for tile and for tile and brick in mixed carloads and that joint rates be determined for their transportation over two or more lines. Data introduced by the petitioner and the respondents relating to rates on tile in states adjacent to or near Wisconsin and to the cost of moving tile in Wisconsin are considered. An independent investigation of brick and tile rates in general and the cost of handling the traffic was also made. *Held:* The rates on drain tile and on mixed carloads of tile and brick should be revised and joint rates should be granted for the transportation of tile and of brick and tile in mixed carloads. The respondents are therefore ordered: (1) to put into effect a schedule of rates fixed by the Commission for the transportation of drain tile in carloads, subject to a minimum weight of 36,000 lb.; (2) to apply on mixed carloads of tile and brick either the rate and minimum on brick or the rate and minimum on tile in such a manner as to produce the greatest charge; and (3) to establish and maintain joint rates on tile and on brick and tile not exceeding the local rate for any distance by more than 1¼ ct. per cwt. *Wis. Clay Mfrs. Assn. v. C. M. & St. P. R. Co. et al.* 756, 762.

Reasonableness of rates in particular cases—Twine, Waupun to Menomonie.

48. The petitioner alleges that it was overcharged for the transportation of a carload of twine from Waupun to Menomonie through the assessment of charges on a weight of 30,000 lb. instead of the correct weight of 28,000 lb. and the movement of the shipment by the most expensive route. The shipment moved from Waupun to Camp Douglas over the C. M. & St. P. Ry. and from the latter point to Augusta over the C. St. P. M. & O. Ry. The shipment should have moved as directed

by the petitioner from Waupun to Burnett Jct. by way of the C. M. & St. P. Ry. and thence to Menomonie by way of the C. & N. W. Ry. and the C. St. P. M. & O. Ry. It appears that the actual weight of the shipment was 27,000 lb. *Held:* The petitioner is entitled to reparation on the basis of the actual weight of the shipment and the rate over the cheaper route. *Kraft, Radtke & Quilling Co. v. C. M. & St. P. R. Co. et al.* 393, 394.

Reasonableness of rates in particular cases—Wagon boxes, Wisconsin points.

See ante, 26.

Reasonableness of rates in particular cases—Wood, Oshkosh to Wisconsin points on the C. & N. W. Ry.

49. The petitioner complains of the rates charged by the respondent for the transportation of dry slab wood and edging and asks for refund on certain shipments. The respondent's tariff provides separate schedules of rates, both distance and group, for carloads of high and low minimum weights. Shipments subject to a low minimum weight take a higher rate than shipments subject to a high minimum weight. The respondent states that the high rate, low minimum basis is intended to apply on dry slabs because of their light loading, while the low rate, high minimum is intended to apply on green slabs, cordwood and the like. The petitioner alleges that the high rate, low minimum basis is practically prohibitive when applied to dry slab wood and edging and desires to have the low rate schedule made directly applicable to shipments of this commodity by the adoption of a minimum weight or weights which can be loaded. The petitioner's request for refund appears to be based upon the fact that his orders for cars of such size that the high minimum, low rate schedules would apply to his shipments were filled by cars of a smaller size taking the low minimum. *Held:* Some readjustment of the relation between the two sets of minima and rates as at present arranged should perhaps be made. (1) The minimum weights in the high rate schedule, which seem unnecessarily low, might well be advanced and the rates in these schedules reduced. No order is issued with respect to these rates, but it is recommended that the respondent submit to the Commission for approval a new schedule of minimum weights and a new schedule of rates applying in connection with these minima to supersede the present schedules. (2) The low minimum, high rate schedules, under which the charges complained of were paid, were lawfully in force when the shipments involved moved. The charges in question do not appear to be erroneous, illegal, unusual or exorbitant. Refund therefore cannot be authorized. The petition is dismissed. *Oshkosh Fuel Co. v. C. & N. W. R. Co.* 775, 781.

Reasonableness of rates in particular cases—Wood, Wisconsin points.

50. Petition is made for the establishment of joint rates on pulp wood to be applicable throughout the state. The petitioner alleges that the joint rates now charged, which are made up of the sum of the local rates, are excessive, unjust and unreasonable and that, because of the growing scarcity of pulp wood in Wisconsin and the consequently increasing length of haul, these rates place the Wisconsin mills at a disadvantage in their competition with mills in Minnesota and New England. The petitioner suggests that joint rates equal to 80 per cent of the sum of the local rates would be reasonable. Two of the respondents, the Stanley, Merrill & Phillips R. R. Co. and the M. St. P. & S. S. M. Ry. Co., contend that the establishment of such rates would work

them an injustice by encouraging the shipping from the territory served by them of raw material which is needed to supply local industries already established there. Another of the respondents, the C. & N. W. Ry. Co., proposes the establishment of joint rates equal to the one-line-haul rates plus 1 ct. per cwt. to compensate for the additional terminal or transfer expenses. The effects of the rates suggested are analyzed and compared with the effects of other rates based upon the one-line-haul rate plus arbitraries of different amounts. It is against public policy to permit a railroad company to put into effect rates which will operate to seclude large timber resources for its sole benefit and exclude from sharing in those resources other portions of the state which have an equal need for them, for such action would lead to monopoly of the most offensive sort. In general it is the plain duty of transportation to do all that it may to lessen the inequalities existing between industries located in close proximity to the raw material they require and industries further removed from their sources of supply. *Held:* Joint rates, computed by adding an arbitrary of ¾ of a cent per cwt. to the present single-line distance rates for each transfer from one road to another, are reasonable for the traffic in question. The respondents are therefore ordered to establish such joint rates to apply to shipments of pulp wood in carloads. *Pulp & Paper Mfrs. Traffic Assn. v. C. & N. W. R. Co. et al.* 735, 743.

Reasonableness of rates in particular cases—Wood, Wisconsin points on the M. St. P. & S. S. M. Ry. to Waukesha.

51. The complainant alleges: (1) that it was overcharged on a number of shipments of slab wood, kiln wood and cordwood moving from points in Wisconsin on the "Soo" line to Waukesha and there turned over to the C. M. & St. P. Ry. Co. for delivery to the complainant at its plant on the C. M. & St. P. Ry. Co.'s tracks; and (2) that the local switching charge exacted by the C. M. & St. P. Ry. Co. is excessive. The complaint with respect to the alleged overcharges appears to be based primarily upon a misunderstanding of the rule in the "Soo" line's tariff for the absorption of switching charges of connecting lines. This rule provides for the absorption by the "Soo" line at junction points on its Chicago division of "the switching charges of connecting lines, or such portion of them as will not reduce charges below $15 per car, if from or to station on its line, or $20 per car if from or to stations on connecting lines." The term "charges," as used in the rule, evidently means the line haul charges of the issuing line and not the total charge including both the line haul charges and the switching charge. *Held:* (1) The absorption of the switching charges as made by the "Soo" Ry. Co. on the cars named in the complaint was reasonable and correct insofar as may be determined from the record of weights and charges presented by the complainant. (2) The C. M. & St. P. Ry. Co's switching charge of $4 per car is reasonable. The petition is therefore dismissed. *Waukesha Lime & Stone Co. v. M. St. P. & S. S. M. R. Co. et al.* 372, 374.

Reasonableness of rates in particular cases—Wood, Wisconsin points to Waukesha.

52. Complaint is made of certain charges which are exacted on carload shipments of slab wood, kiln wood and cordwood originating at Wisconsin points on the C. M. & St. P. and the C. & N. W. railroads and delivered to the complainant at its plant on the tracks of the C. M. & St. P. railroad at Waukesha. The complainant contends that the charge of the C. & N. W. Ry. Co. and the C. M. & St. P. Ry. Co. for line haul should in every case be computed on the actual weight of fuel wood in the car at the lowest rate. *Held:* The custom of having a dual

basis of computing charges on wood, using either a high rate and low minimum or a low rate and high minimum in order to obtain the lowest charge, is not entirely defensible, but inasmuch as the present rates when combined with the prescribed minimum are not excessive, the request that the minimum used with the low rate in the instant case be lowered cannot be granted. The complaint is dismissed. *Waukesha Lime & Stone Co. v. C. & N. W. R. Co. et al.* 650, 651–652.

Reasonableness of rates in particular cases—Wooden boxes and lumber, Wausau to New London.

See ante, 35.

Switching charges.

See also ante, 42–45.

Fond du Lac, between Fond du Lac and No. Fond du Lac, on the M. St. P. & S. S. M. Ry., *see ante,* 42.

On building materials, substitution of switching charge for distance tariff rates, Milwaukee to West Milwaukee, on C. M. & St. P. Ry., *see ante,* 21.

On coke, absorption of switching charges, *see ante,* 23.

On grain, absorption of switching charges, *see ante,* 29.

On gravel and crushed stone, absorption of switching charges, *see ante,* 31.

On wood, absorption of switching charges, *see ante,* 45, 51.

On wood, reasonableness of switching charges, Wauskesha, *see ante,* 45.

Switching charges absorption of, *see ante,* 23, 29, 31, 45, 51.

Waukesha, on the C. M. & St. P. Ry., *see ante,* 43.

Switching charges—Reciprocal switching rate.

53. A reciprocal rate, or the charge as between carriers for switching service, should not differ from the rate quoted the individual shipper for the same service, and either rate should be sufficient to pay the costs incurred and contribute in some part, large or small, depending upon other conditions, to the return of the carrier upon its investment. *Waukesha Lime & Stone Co. v. C. M. & St. P. R. Co. et al.* 534, 536.

RATES—STREET RAILWAY.

Discrimination in street railway rates, see DISCRIMINATION, 6.

Fare limits—Extension of single fare limits.

See post, 10.

Fare limits—Reasonableness of single fare limits.

See post, 10.

Fares—Transfer privileges on payment of single fare.

1. The question of double transfers in the city of Milwaukee is raised in the instant case. *Held:* In order to facilitate travel and relieve congestion in the down-town district, it is now necessary that the matter of double transfers should receive general consideration. The company should make a study of the matter and extend the double transfer system where it is necessary to secure the desired results, and if this is not accomplished in a satisfactory manner, it will be necessary for the Commission to make further investigations and formally consider this question. *In re Service of T. M. E. R. & L. Co. in Milwaukee,* 178, 213.

Five-cent zone system of rates.

2. The so-called five-cent zone system of suburban and interurban rates in use on many interurban electric railways is unscientific and inequitable because of the unequal zone distances used, the concessions made to favored localities and favored classes of passengers at the expense of either localities and other classes of passengers and the consequent shifting of costs, in the form of excessive rates, onto patrons in the localities or classes discriminated against. In the instant case the one-way fares charged for different trips over the suburban and interurban lines of the two companies vary widely when compared on a passenger-mile basis. This discrimination has given rise to other discriminations such as those involved in the granting of overlapping zones and special and round trip rates to favored points. *In re Milw. Suburban & Interurban Ry. Rates*, 475, 482–484.

Making rates—Elements considered—Cost of service.

3. It has been contended that the basic rate in the instant case should be placed upon a cost-of-service basis. When the conditions prevailing on the interurban system as indicated by the passenger density per car-mile are considered, however, it seems best to place the rate at a figure lower than the cost of service would demand so as to encourage the passenger density to increase sufficiently to bring the revenues to the point where they will bring an adequate return above all expenses. *In re Milw. Suburban & Interurban Ry. Rates*, 475, 488–489.

Making rates—Elements considered—Nature of transportation business.

4. The nature of the transportation business is such as to make simplicity, uniformity and stability in rate schedules desirable. The basic rate for regular passenger fares upon the steam lines within the state, for example, is 2 cts. per passenger-mile and with few exceptions the fares are computed accordingly whether the company is large or small, whether the haul is long or short, whether the traffic is profitable or unprofitable, or whether the service is poor or excellent. If all these factors cited should be reflected in full force in the rates the probability is that the rates would vary all the way from 0.5 of a cent per mile to 50 cts. per mile. But the nature of the transportation business is such that the demand for simplicity, uniformity and stability is necessarily controlling because even a slight variation in basic rates would open the way to uncertainty in the minds of the riding public and would result in personal and local discrimination. *In re Milw. Suburban & Interurban Ry. Rates*, 475, 489–490.

Making rates—Elements considered—Traffic conditions.

5. It has been contended in the instant case by representatives of various localities that the patrons of those separate lines or sections of lines having a higher traffic density and operating upon a better revenue basis should be granted fares lower than the fares computed upon a mileage basis. It is difficult, however, to see the justice of establishing such fares, especially when it is the object of this revision of existing rates to abolish, so far as practicable for the present, all special fares involving local discrimination, and to bring about simplicity, uniformity and stability in the rate schedules applying to these lines by disregarding any differences in revenues or operating conditions. *In re Milw. Suburban & Interurban Ry. Rates*, 475, 489.

Reasonableness of rates—Matters considered in determining reasonableness—Cost of service—Allowance for paving to be constructed in the future.

6. It does not seem necessary to provide for paving costs in the distant future, as conditions at that time may have changed considerably, and to provide for the paving work which may reasonably be expected within the near future, say four or five years, is no doubt all that can reasonably be expected here. *In re Service of T. M. E. R. & L. Co. in Milwaukee*, 178, 233.

Reasonableness of rates—Matters considered in determining reasonableness—Cost of service—Interest and profits.

7. In the instant case an allowance of 7½ per cent on the value of the property is included in the total operating expenses for interest and profit. *In re Service of T. M. E. R. & L. Co. in Milwaukee*, 178, 239.

Reasonableness of rates—Matters considered in determining reasonableness—Decrease in earnings due to quantity rate on tickets prescribed in previous order of Commission.

8. Allowance is made in the instant case for the reduction of earnings resulting from the provisions of the order in *City of Milwaukee v. T. M. E. R. & L. Co.* 1912, 10 W. R. C. R. 1, 305, which requires the sale of 13 tickets for 50 cts. *In re Service of T. M. E. R. & L. Co. in Milwaukee*, 178, 235–236.

Reasonableness of rates in particular cases.

9. The street railway company contends in the instant case that the revenue yielded by the rates provided for the company by the order of the Commission in the *Fare Case* (*City of Milwaukee v. T. M. E. R. & L. Co.* 1912, 10 W. R. C. R. 1, 369), is not sufficient to meet reasonable expenses under present conditions without the making of any further improvements in service. A valuation was computed and the revenues and expenses were investigated, data presented in the *Fare Case* being used with new data as the basis for further analyses. Necessary apportionments are made between T. M. E. R. & L. Co. and the M. L. H. & T. Co. In the study of expense for maintenance of equipment consideration is given to comparative data on the unit costs of street railway companies in other large cities. *Held:* Investigation of the costs of rendering service conforming to the standards of service established as adequate in the instant case shows that the cost can reasonably be met from the revenue yielded by the rates ordered by the Commission in the *Fare Case*. *In re Service of T. M. E. R. & L. Co. in Milwaukee*, 178, 241–244.

10. The T. M. E. R. & L. Co. and the M. L. H. & T. Co. ask that the Commission determine and prescribe reasonable uniform tariffs and schedules of rates for the suburban and interurban transportation service rendered by the two companies. The companies take this action at the suggestion of the Commission in order to dispose in one proceeding of the formal complaints covered in the present opinion and decision and a number of informal complaints which have been made and to avoid future complaints by eliminating the discriminatory features of the suburban and interurban rate schedules now in effect. The remaining formal petitions listed in the title to this proceeding relate respectively to: (1) the round trip rates between Calhoun and West Allis and Calhoun and Milwaukee, which are alleged to be discriminatory as compared with more favorable rates over the same line between Waukesha and the same points; (2) the single fare limits in Wauwatosa, as recommended by the Commission and as required by the

franchises under which the M. L. H. & T. Co. operates in Wauwatosa; (3) the alleged necessity of extending the limit for commutation tickets between the city of Racine and points in the town of Caledonia from Thielen stop to Four Mile road, a point about one-half mile north of Thielen stop, in order to make certain public places available as waiting stations; and (4) and (5), the reasonableness of the suburban fares in effect between Milwaukee and West Allis, especially with respect to certain single fare limits which are alleged to discriminate unjustly against certain districts and to cause congestion of traffic and hence inadequate service in other districts. *Held:* The rates of fare charged by the T. M. E. R. & L. Co. and the M. L. H. & T. Co. for the suburban and interurban service involved in the present proceeding are unjustly discriminatory. The companies are therefore authorized to put into effect for this service schedules of rates determined by the Commission. These schedules include: (1) rates for suburban passenger service to and through the cities of West Allis and Wauwatosa and on the Wanderer's Rest Cemetery line, to and through the city of North Milwaukee, Whitefish Bay and Fox Point, South Milwaukee and Tippecanoe, and rates for local suburban hauls originating and terminating beyond the single fare limits of the city of Milwaukee; (2) rates through interurban passenger service upon the Milwaukee-Waukesha-Oconomowoc-Watertown line, the Milwaukee-Muskego Lakes-East Troy line, the Milwaukee-Waterford-Burlington line and the Milwaukee-Racine-Kenosha line; and (3) provision for the sale of tickets in packages for the payment of fares between points within the single fare limits of the city of Milwaukee and Marquette Boulevard in the city of South Milwaukee and for the sale of mileage books for the payment of interurban and suburban fares. Single fare limits for the city of Milwaukee are prescribed and all overlapping fare zones are to be abandoned. "Through interurban passenger service" upon the Milwaukee-Waukesha-Oconomowoc-Watertown line, the Milwaukee-Muskego Lakes-East Troy line and the Milwaukee-Waterford-Burlington line is defined as passenger service between any point within the single fare limits of Milwaukee and points beyond Woodlawn Stop, and upon the Milwaukee-Racine-Kenosha line as passenger service between any point within the single fare limits of Milwaukee and points beyond South Limits, South Milwaukee. The rates prescribed for suburban passenger service are based upon the city fare with an addition of 2 cts. for each 2 ct. zone, as determined by the Commission, traveled beyond the single fare limits of the city of Milwaukee. Passengers paying these rates are to be entitled to the privilege of the usual transfers within the single fare limits of the city of Milwaukee and upon the several suburban lines. The rate prescribed for through interurban passenger service is a uniform charge of 2 cts. per mile computed to the nearest 1 ct. for the actual mileage, except the mileage included within the single fare limits of Milwaukee, for which the charge is in every case to be computed at 4 cts., and the mileage included within certain limits in Waukesha, Watertown, Burlington and Racine. The rate of fare per passenger for interurban service between points without the single fare limits of the city of Milwaukee is to be the difference between the through rates to these points. The minimum fare for any haul is to be 5 cts. Every interurban fare from or to Milwaukee, Racine, Kenosha, Burlington, Waukesha, Oconomowoc and Watertown is to entitle the passenger to the usual transfer privilege within the single fare limits of such cities where such privilege exists. The sale of all commutation and reduced round trip tickets which may now be in force is to be abandoned. The tickets to South Milwaukee authorized by the present order to be sold in packages are to be sold in packages of 20 for $2.50 and each ticket is to be good for one continuous ride between the points named, with privilege of transfers within the distance in-

cluded. These tickets are to be sold for one year after date of installation. The mileage books authorized are to be for 300 miles at 1.8 cts. per mile, or $5.40 per book, and are to be good for the payment of any interurban or suburban fare, provided that the minimum fare thus payable shall amount to a five mile "tear." All complaints and petitions named in the present proceeding are dismissed insofar as they are not satisfied or granted by this order and insofar only as they relate to rates of fare for suburban and interurban passenger service. It is recommended, however, that the companies provide for a single fare of five cents to apply within the city limits of West Allis. The order is in no wise to affect or alter the rates now in effect for private, funeral, or chartered car service, or the present reduced "party rates" for passenger service, or rates of any service other than the carrying of passengers. *In re Milw. Suburban & Interurban Ry. Rates*, 475, 498–517.

RATES—TELEPHONE.

Discrimination of telephone rates, *see* DISCRIMINATION, 8–11.

Exchange radius, determination of.

See also post, 3.

1. It undoubtedly costs much more to furnish service to the individual who happens to live at a considerable distance from the central office than to the individual whose telephone is located close to the central office, if the cost of building the individual line is to be charged entirely to the subscriber to be reached by that line. Ordinarily it would probably be true that a city should be considered as a unit for purposes of telephone service, but in the present case the conditions appear to be so exceptional as to justify some departure from this policy. The city limits seem to be very much out of proportion to the population of the city and to the area which is really built up. An exchange radius of one mile would, to all intents and purposes, it appears, include all persons who are within the city. That is, it would include all persons living under city conditions, even if it did not include all those who happen to be within the very extensive city limits. Because the city limits happen to be out of all proportion to the size of the city itself it hardly seems reasonable to require the telephone utility to serve all patrons within those limits if such patrons are not really city subscribers in a practical sense. *In re Appl. Tomahawk Lt., Tel. & Improvement Co.* 340, 342–343.

Making rates—Elements considered—Traffic conditions.

2. A factor to be considered in the forming of an equitable rate schedule is the relation between the rates to be paid by rural subscribers connected to loaded lines running between two exchanges when there is a trunk line between those exchanges and the rate for the same class of subscribers when there is no trunk line between the exchanges. In the first case the service over the loaded line will not be interfered with by calls passing between central offices over these loaded lines, as all calls will be required to be put through over the trunk lines. In the second instance calls passing between the two central offices will have to be put through over the loaded lines and will cause more or less interference with the use of those lines. In therefore seems reasonable and just to charge a somewhat higher rate per telephone for the first mentioned class of subscribers than for the second. *In re Appl. Farmers' Tel. Co. of Beetown*, 540, 583.

Message rates.

See post, 4–5.

Physical connection, term and conditions of joint use.
See also TELEPHONE UTILITIES, 16, 19.
See post, 46.

Reasonableness of advance in rates in particular cases.

3. The Tomahawk Lt., Tel. & Improvement Co. applies for authority to put into effect for telephone service in the city of Tomahawk a schedule of rates under which subscribers whose telephones are located beyond an exchange radius of ¾ of a mile will be charged rates increased by 25 cts. per month for every ⅛ of a mile or fraction thereof of the distance beyond the exchange radius. Since the hearing the utility has filed, as an alternative plan, a proposed rule requiring subscribers to pay for all extensions in excess of 1,000 feet. A valuation of the telephone property was made and the revenues and expenses of the telephone utility were investigated. It appears that the schedule of rates might perhaps be improved by providing for two party or four party service at a rate lower than that asked for single party service but that no revision of the general rate schedule is necessary at this time. Ordinarily a city should probably be considered as a unit for purposes of telephone service, but in the present case, inasmuch as the city limits are out of all proportion to the population of the city, it seems reasonable to restrict the exchange radius to the area occupied by persons living under city conditions, even though some persons living within the city limits are thereby excluded. *Held:* The additional distance charge proposed by the utility is unnecessarily high, and the exchange radius proposed cannot be approved. The applicant is therefore authorized to amend its rate schedule by providing that its present rates shall apply only within a radius of one mile from the central office, and that for distances beyond this radius an additional charge of 25 cts. per month per one quarter mile of line or fraction thereof shall be made, such additional charge to be divided equally among all telephones on the line. *In re Appl. Tomahawk Lt. Tel. & Improvement Co.,* 340, 343.

4. Application is made by the Farmers' Tel. Co. of Beetown for authority to increase its rates. The Farmers' Tel. Co. operates a total of nine exchanges in Grant county and serves about 400 square miles of territory. The Commission investigated the organization of the company, the quality of its service, its switching connections with foreign lines and its revenues and expenses, and made traffic studies to determine (1) the extent and cost of switching service for foreign lines, (2) the possibility of improving various phases of the service rendered by the applicant and (3) proper toll charges for calls between central offices. In connection with the determination of the cost of switching service for foreign lines, and for other purposes, the valuation made in 1909 of the physical property of the applicant was revised and brought up to date as of April 1, 1913, and the value of the property used by foreign lines was determined. For the purpose of fixing reasonable toll rates between the various central offices connected to the applicant's so-called "Fennimore lines" between Lancaster and Fennimore an approximate valuation of these lines was made and used in connection with the results obtained in the traffic study in determining the cost of service. The records of the applicant are incomplete. It was therefore necessary to construct income and expense accounts upon the basis of such record information as could be obtained, supplemented by other data in the possession of the Commission. *Held:* (1) The giving of unlimited free service between the applicant's nine exchanges and to most of the connecting companies is unjust to those subscribers who do not avail themselves of this service and its results, moreover, in considerable congestion of the lines. (2) In view of the congested traffic over the applicant's lines from Lancaster to Fennimore and the

fact that the rates in force are not such as to warrant the construction of additional free lines, it is deemed best to place a toll charge on messages going over these lines. (3) A toll charge may reasonably be made for service over the trunk line between Lancaster and Platteville, owned jointly by the applicant and the Platteville Rewey and Ellenboro Tel. Co., when the line is made "full metallic" as contemplated. It is ordered that the applicant be authorized to put into effect a schedule of rates determined by the Commission, at such time as the applicant shall have made such changes in its management, organization, accounting methods, and procedure as meet the requirements of the Commission. It is further ordered that upon the completion of the work of making "full metallic" the line between Lancaster and Platteville, the present free service shall be suspended and a toll charge of 7 cts. per call substituted, the revenue therefrom to be divided equally between the two companies, unless they shall agree upon some other basis of division. The schedule of rates authorized covers business, residence and rural telephones and switching service for foreign lines and provides toll charges for calls passing between different exchanges of the applicant or between exchanges of the applicant and foreign exchanges and toll charges to be adopted in place of the present free service over the company's trunk lines from Lancaster to Fennimore. Subscribers connected to lines entering two of the applicant's exchanges are to have unlimited service to both exchanges; subscribers connected to lines entering but one of the applicant's exchanges are to have the option of taking unlimited service to the one exchange at a specified rate, or unlimited service to that exchange and their choice of any one additional exchange of the system which may be called directly from the exchange to which their line is connected, at a higher rate. All calls passing between two of the applicant's exchanges are to be routed over the trunk lines where such lines exist and are to be charged for at the rate of 5 cts. per call, except calls made under the provisions for unlimited service. All calls passing between one of the applicant's exchanges and an exchange of any foreign company made a party to the instant case, are to be routed over through lines where such lines exist and to be charged for at the rate of 5 cts. per call, except for Lancaster-Platteville, Lancaster-Fennimore, and Lancaster-Preston calls, which are provided for elsewhere in the order, and the total revenue from calls of this class going over trunk lines owned entirely by one company is to be divided as follows: 70 per cent to the owner of the line and 30 per cent to the company connecting with the line. In cases where there is no trunk connection between two exchanges of the applicant and it is necessary to route calls over loaded lines, a toll charge of 4 cts. per call is to be made, except for calls made under the provisions for unlimited service. In cases where there is no trunk connection between one of the applicant's exchanges and a foreign exchange and calls are routed over loaded lines belonging to the applicant or to a foreign company, a toll charge of 4 cts. is to be made and the total revenue from such calls is to be divided as follows: 30 per cent to each company performing switching service and 40 per cent to the owner of the line. No part of the schedule authorized is to be adopted unless the entire schedule is adopted. If the schedule is not adopted the rate for switching service for foreign lines is to be $1.00 per telephone per year for telephones on lines connecting with a second exchange and $1.50 per telephone per year for telephones on lines not connecting with a second exchange. *In re Farmers' Tel. Co. of Beetown*, 540, 584–586.

5. The Oakfield Tel. Co. applies for authority to increase its message rates for toll messages sent from Oakfield to Fond Lac over the lines of the Wis. Tel. Co. in Fond du Lac. The rates now legally in effect are 5 cts. to subscribers and 10 cts. to non-subscribers for five minutes

or less. The applicant desires to have the 10 ct. rate which it has been exacting from its subscribers for some months for the service in question though not sanctioned by the Commission, made the legal rate for subscribers as well as for non-subscribers in order to compensate for an increase in the charge made by the Wis. Tel. Co. for distributing messages sent by the applicant. *Held:* A proper adjustment of the message rate from Oakfield to Fond du Lac can not be secured except by an action to fix a joint rate for the Oakfield Tel. Co. and the Wis. Tel. Co. For this reason and for the further reason that the reports of the applicant do not indicate a need for increasing the revenue of the business as a whole the petition is dismissed without passing upon the reasonableness of the increased rate proposed by the applicant. *In re Appl. Oakfield Tel. Co.* 726, 728.

Reasonableness of rates in particular cases.

6. On motion of the Commission a rehearing was held of certain matters involved in an order issued October 19, 1912 (10 W. R. C. R. 598) directing the Clinton Tel. Co. and the Bergen Tel. Co. to establish physical connection between their systems and prescribing a 2 ct. toll charge for completed calls between the two systems. The Bergen Tel. Co. is opposed to the exaction of a toll for service between the two systems. The Clinton Tel. Co. favors the retention of the 2 ct. toll ordered by the Commission. It appears that the exaction of this toll has reduced the number of messages transmitted between the two exchanges, largely, it is probable, through the elimination of unnecessary conversation. *Held:* The effect of the 2 ct. toll is in the interests of good service and there are no valid reasons for abandoning the charge. The terms of the former order with respect to the 2 ct. toll and the division of the revenue accruing from it will therefore remain unchanged. *In re Physical Conn. Betw. Clinton & Bergen Tel. Cos.* 249, 252–253.

7. This proceeding arises out of a controversy between the petitioner and the respondents with respect to the payment to be made to the respondents for switching service rendered for a certain rural line owned and operated by the petitioner. The petitioner has a system of exchanges and switches in the territory south and east of Spring Green which it has connected with the exchange maintained jointly by the respondents at Spring Green by the rural line mentioned and by a trunk line. The respondents have assessed the petitioner the sum of $75 per year for the switching service rendered for the rural line, but the petitioner has refused to pay this sum on the ground that it is offset by the sum which the respondents should pay toward the upkeep of the trunk line which the petitioner has maintained and operated wholly at its own expense. The respondents allege that the service over the trunk line is of no particular value to their subscribers and contend that they are entitled to a fair switching charge for each telephone connected to the petitioner's rural line. An approximate valuation of the lines in question was made, a peg count of all calls through the Spring Green exchange was taken and the operating expenses of this exchange were determined as closely as possible. *Held:* (1) The respondents should share in the expense of maintaining and operating the trunk line between the Spring Green exchange and the petitioner's system; (2) a charge of $1 per telephone is equitable for the service rendered the petitioner by the respondents in switching for the petitioner's rural line at the Spring Green exchange. It is ordered: (1) that the respondents pay to the petitioner the sum of $27 per year for the use of the trunk line connecting the "Spring Green" and the "Fernan" exchanges; and (2) that the petitioner pay to the respondents each year the sum of $1 per telephone for switching service for such telephones as are connected to the petitioner's rural lines which enter the respondent's Spring Green exchange. *Arena & Ridgeway T. Co. v. Troy & Honey Creek Tel. Co. et al.* 763, 770–771.

Switching rates.
See ante, 4.

Toll rates
See also ante, 4, 6.

8. The petitioner requests that the respondent be compelled to grant it the same terms for toll service over the respondent's toll line from Galesville to La Crosse that the respondent grants to the Western Wisconsin Tel. Co. The respondent collects from the petitioner 75 per cent of the tolls received by the petitioner from its subscribers for use of the toll line in question. The respondent and the Western Wisconsin Tel. Co. own the toll line jointly and each company retains all toll revenues originating on its own lines. The Western Wisconsin Tel. Co. charges all subscribers who desire toll line service a flat rate of $12.50 more per year than it charges subscribers who do not desire this service. For individual messages it charges the same toll rate as the petitioner. *Held:* The request of the petitioner cannot be granted. The respondent and the Western Wisconsin Tel. Co. were acting entirely within their right in making the present apportionment of revenues between themselves and, so long as this apportionment does not result in prejudicing the rights of subscribers or patrons of either company, the action of the two companies in this matter is not subject to revision or modification by public authorities. Even where physical connection of lines is enforced under the statute, it is contemplated that the companies shall agree upon the apportionment of the joint tolls, and it is only in case of failure of agreement that the Commission has authority to make the apportionment. Moreover, in making the apportionment the Commission is bound both by statutory and by constitutional requirements to provide for such reasonable terms and conditions as will avoid the taking of property without compensation. Under the circumstances the apportionment of the toll revenues between the respondent and the Western Wisconsin Tel. Co. is no criterion for judging the reasonableness of charges exacted of a connecting company desiring the toll line facilities but having no proprietary interest in these facilities. The petition is dismissed. *Ettrick Tel. Co. v. La Crosse Tel. Co.* 25, 28.

9. With respect to the matter of long distance toll service to points beyond Clinton and Bergen the Commission in the instant case establishes a toll charge of 5 cts. in addition to all other toll charges for all completed long distance calls passing between the systems of the Clinton Tel. Co. and the Bergen Tel. Co. over the iron line extending from Bergen to Clinton and owned jointly by the two companies. The company on whose line or connecting lines the call originates is to collect the revenue from this charge and all such revenue is to be divided equally between the two utilities. *In re Physical Conn. Betw. Clinton & Bergen Tel. Cos.* 249, 257, 258.

Toll rates—Adjustment of toll rates subsequent to physical connection.
See ante, 6.

RATES—TOLL BRIDGE.

Making rates—Elements considered—Cost of service—Management, wages of.

1. In view of the investment in the property and the risks to which it is exposed, the volume of business, and also the time required for management of the affairs of the utility, provision should be made for the payment of a salary to the member of the firm who is in active charge of the bridge. *Marcus et al. v. Postel & Swingle*, 47, 49.

Reasonableness of rates in particular cases.

2. The complainants allege that the rates charged by the respondent for the use of its toll bridge over the Wisconsin river at Muscoda are excessive and discriminatory. A valuation was made and the revenues and expenses were investigated. *Held:* A slight reduction of revenue is justified. The present rate schedule, however, shows no marked inequality, except that existing between the charge for a single trip for a double team or automobile and the ticket rates for vehicles making 10 or more trips. A reduction of the single trip rate for this class of business is, therefore, the only change which is considered advisable. The respondent is accordingly ordered to reduce the present rate of 25 cts. for a single trip for two horse teams and automobiles to 20 cts. and to retain all other rates as they are at present. *Marcus et al. v. Postel & Swingle*, 47, 51.

RATES—WATER.

Making rates—Elements considered—Cost of service—Output, capacity and consumer costs.

1. Cost of service is made up of different kinds of expenses. It must be clear to all that expenses incurred in the production and distribution of a service are not all of the same nature; as, for example, the expense of steam generation differs from interest on the investment. Such expenses as depreciation, interest, taxes, and certain *portions* of other expenses, are indirect expenses, and may be said to be determined by the investment necessary to provide for the consumers' demand. It logically follows that there are certain other expenses which are directly dependent upon the output of the plant, varying directly with the output. *Vil. of Sharon v. United Heat, Lt. & P. Co.* 1, 9.

2. For the purpose of cost analyses a system of accounts should be used that shows the direct operating expenses of the utility grouped into accounts covering the different steps of production in chronological order. Thus, the direct expenses of a water utility are grouped into: Pumping, distribution, and commercial. The items included in these accounts can be charged directly to the various steps in the furnishing of water. The indirect expenses, also called "overhead" or "fixed," are grouped into general, undistributed, interest, depreciation, and taxes. These expenses cannot be charged to any particular operation, but must be distributed on some basis over the different units of the product. It is obvious that the indirect or capacity expenses do not vary with output, but that on the other hand, they are occasioned in supplying that output, hence output should bear its proportionate part. *Vil. of Sharon v. United Heat, Lt. & P. Co.* 1, 9–10.

3. The cost of supplying water is composed of three elements, the consumer, capacity, and output costs—the first two, however, sometimes being combined in utility accounts—and it is inequitable to assess the indirect expenses entirely to any one or two of these elements. Each element must bear its proper share. *Vill. of Sharon v. United Heat. Lt. & P. Co.* 1, 10.

4. The rates charged for a service, in order to bear the proper relations to the cost of furnishing it, should be made up of a fixed charge, based, if possible, upon the consumer's demand, and of a variable charge for each unit used. In determining equitable water rates, no accurate demand data being generally available, the capacity expenses may sometimes be apportioned over the total number of consumers. The variable charge per unit used, which in the present case is one thousand gallons, is obtained by dividing the sum of all those expenses charged to output by the number of gallons of water consumed. *Vill. of Sharon v. United Heat, Lt. & P. Co.* 1, 10.

Reasonableness of rates in particular cases.

5. The petitioner alleges that the respondent charges it an excessive rate for pumping water into the village water system from the well which supplies the water; that the respondent has increased the cost of this service, contrary to the provisions of an agreement between the petitioner and the respondent; that the petitioner has to bear the cost of depreciation, upkeep, etc., in addition to the contract price; and that the petitioner is not receiving a just compensation for the use of its power house and equipment by the respondent. The petitioner owns a joint gas and water utility for which the respondent for some time past has pumped the water used. The reasonableness of the terms of the agreement under which the respondent undertook to perform this service, and is still performing it, is in question. Investigations were made of the operating conditions of both the water and gas departments, and of the revenues and expenses of the water department. The contract price of 30 cts. per thousand gallons pumped appears to be slightly higher than the cost to the respondent of performing the service but it is lower than the cost to the village was when the village did the pumping. The difference between the cost to the respondent and the contract price seems to be made up of savings arising from the lower cost of fuel, from improved efficiency of equipment and from other economies. *Held:* The terms under which the respondent performs the service of pumping for the petitioner do not appear to be unreasonable. The evidence shows that the respondent has not increased the cost of pumping water, as alleged, and that the petitioner, under the agreement, should assume the burden of depreciation and upkeep of the equipment in question. It appears further that the respondent should not be required to pay a rental, in addition to operating the gas plant, for the portion of the station used for the respondent's electrical equipment. The petition is therefore dismissed. *Vill. of Sharon v. Heat, Lt. & P. Co.* 1, 17–18.

REAPPORTIONMENT OF JOINT RATES.

See RATES—RAILWAY.

REASONABLE RETURN.

See RETURN.

REASONABLENESS OF RATES.

See RATES.

REBATES OR CONCESSIONS.

See also RATES—ELECTRIC; RATES—TELEPHONE.

Allowance to customer of electric utility on account of ownership of instrument or facility—Rate concession prohibited.

1. The Public Utilities Law (sec. 1797m—90) provides that a public utility shall not give a lower rate to a consumer who owns a meter than to another consumer whose meter is owned by the utility. *In re Appl. Neshkoro Lt. & P. Co.* 52, 54.

RECIPROCAL RATES.

See RATES—RAILWAY.

RECOVERY.

See REPARATION.

REDUCTION OF RATES.

Reduction on account of furnishing of facilities by consumer, prohibited, *see* DISCRIMINATION, 1; REBATES OR CONCESSIONS, 1.

Reduction on account of ownership of stock by subscribers, prohibited, see DISCRIMINATION, 8.

REFUNDS.

Refund from charges collected, *see* REPARATION.

REFUSAL OF SERVICE.

Refusal of service by public utility for non-payment of bills rendered, *see* RULES AND REGULATIONS, 2, 8–10.

RELATION OF RATES.

See RATES.

REPARATION.

GROUND FOR RECOVERY.

Claim for reparation based on contract for different rate than that stated in published tariff.

1. We have repeatedly held that even where a shipment is made upon the quotation of a rate by a carrier's agent, which rate afterwards proves to be inapplicable, the shipper is nevertheless liable to pay the legal and published charges. *Callaway Fuel Co. v. C. & N. W. R. Co. et al.* 694, 697.

Competitive nature of traffic.

2. In the instant case there are considerations in addition to the general unreasonableness of the rate which make the claims for reparation valid. These considerations arise out of the competitive nature of some of the traffic which would have made the shipments in question unavailable to the respondent unless the lower rates were met. *So. Wis. Sand & Gravel Co. v. C. M. & St. P. R. Co.* 380, 384–385.

Existence of a lower rate on a competing line.

3. It has been held repeatedly in reparation cases that a refund may be granted when a competing line has a lower rate in effect and the respondent railway company could not have participated in the traffic upon its lawfully published rate. (*Geo. T. Rowland & Son v. C. & N. W. R. Co.* 1912, 9 W. R. C. R. 163; *Waukesha Lime & Stone Co. v. M. St. P. & S. S. M. R. Co.* 1912, 9 W. R. C. R. 167.) *So. Wis. Sand & Gravel Co. v. C. M. & St. P. R. Co.* 380, 384.

Recent change of classification not a proof of reasonableness of rate under previous classification.

4. The fact that a distinction in the various grades of a commodity has been recently made and rates adjusted on the basis of this distinction, does not prove that the former classification, and the rates applicable under it, were not unreasonable. *Moritz v. C. M. & St. P. R. Co.* 684, 685–686.

Reduced rate may be considered to have been reasonable prior to the date of its establishment.

5. Although the fixing of a reasonable rate at any given time does not necessarily imply that this rate would have been reasonable at any previous point of time, yet neither is it conclusive evidence that the new rate would not have been reasonable prior to the date of the order establishing it. *Wausau Paper Mills Co. v. C. M. & St. P. R. Co.* 690, 692–693.

IN GENERAL.

Power of Commission to authorize refund.

6. The Commission cannot under the statute relieve a shipper from the payment of the lawful established tariff charges but can only authorize refunds after the payments have been made and have been duly found to be exorbitant, unusual, illegal and erroneous. When a shipper considers demurrage rules to be unreasonable, his proper procedure is to pay the demurrage charges and apply for a refund. *Paine Lbr. Co. Ltd. v. C. & N. W. R. Co.* 633, 634.

Proceedings for recovery—Person aggrieved must petition Commission.

7. The Commission is without power to decide upon the merits of complaints against charges or to authorize a refund of any part thereof, unless the complaint be lodged by the person aggrieved. *Wausau Advancement Assn. v. C. & N. W. R. Co.* 772, 774.

JURISDICTION OF COMMISSION.

Authority of Commission in awarding reparation.

See ante, 6–7.

REFUNDS.

Refund from charges based on minimum weight of cars furnished at the convenience of the carrier instead of the minimum weight of the cars ordered by the shipper.

8. The petitioner complains of the rates charged by the respondent for the transportation of dry slab wood and edging and asks for refund on certain shipments. The respondent's tariff provides separate schedules of rates, both distance and group, for carloads of high and low minimum weights. Shipments subject to a low minimum weight take a higher rate than shipments subject to a high minimum weight. The respondent states that the high rate, low minimum basis is intended to apply on dry slabs because of their light loading, while the low rate, high minimum is intended to apply on green slabs, cordwood and the like. The petitioner alleges that the high rate, low minimum basis is practically prohibitive when applied to dry slab wood and edging and desires to have the low rate schedule made directly applicable to shipments of this commodity by the adoption of a minimum weight or weights which can be loaded. The petitioner's request for refund appears to be based upon the fact that his orders for cars of such size that the high minimum, low rate schedules would apply to his shipments were filled by cars of a smaller size taking the low minimum. *Held:* Some readjustment of the relation between the two sets of minima and rates as at present arranged should perhaps be made. (1) The minimum weights in the high rate schedules, which seem unnecessarily low, might well be advanced and the rates in these schedules reduced. No order is issued with respect to these rates, but it is recommended that the respondent submit to the Commission for ap-

proval a new schedule of minimum weights and a new schedule of rates applying in connection with these minima to supersede the present schedules. (2) The low minimum, high rate schedules, under which the charges complained of were paid, were lawfully in force when the shipments involved moved. The charges in question do not appear to be erroneous, illegal, unusual or exorbitant. Refund therefore cannot be authorized. The petition is dismissed. *Oshkosh Fuel Co. v. C. & N. W. R. Co.* 775, 781.

Refund from charge based on minimum weight which cannot be loaded.

9. Complaint is made that excessive charges were exacted by the M. St. P. & S. S. M. Ry. Co. for the transportation of twelve carload shipments of tanbark from Westboro to Milwaukee. The shipments in question were loaded in box cars, for the purpose of making a test for the information of the Commission in deciding the case of *Barker & Stewart Lbr. Co. v. C. M. & St. P. R. Co.* 1913, 11 W. R. C. R. 537, of the amount of tanbark that could be loaded into this class of cars. Charges were assessed on the basis of the minimum rated capacity of the cars used, although the actual weight of the shipments, when the cars were loaded to full capacity, was less than the minimum weight applied. *Held:* The charges complained of should have been assessed on the basis of the rule which provides for the use of two cars for one when one car cannot be furnished to accommodate the minimum weight provided by tariff. *Barker & Stewart Lbr. Co. v. C. M. & St. P. R. Co., supra.* Refund is therefore ordered of the excess of the charges paid above what the charges would have been if based on the actual weight of the shipments. *Westboro Lbr. Co. v. M. St. P. & S. S. M. R. Co.* 378, 379.

Refund from charge erroneously made upon return shipment of car stakes.

10. The petitioner alleges that it was erroneously charged for the transportation of three carloads of car stakes over the respondent's line from Rhinelander to Armstrong Creek. The car stakes were furnished and shipped by the petitioner for the use of the respondent in moving pulp wood for the petitioner. When the shipments moved the respondent's tariff relating to shipments of saw logs between points within the state provided that car stakes so transported should be returned and delivered to consignee without charge. *Held:* The charges exacted of the petitioner were unusual. Refund is ordered. *Rhinelander Paper Co. v. M. St. P. & S. S. M. R. Co.* 84, 85.

Refund from excess charge based on a rate subsequently held to be unreasonable by the Commission.

11. The petitioner complains that the respondent exacted charges for the transportation of certain carload lots of sand and gravel from Janesville to points within Wisconsin which were higher than the rates prescribed by the Commission in *Waukesha Lime & Stone Co. v. C. M. & St. P. R. Co.* 1912, 9 W. R. C. R. 86 and 347, and asks for refund and such further order as the Commission may deem necessary. It appears that the present case arises out of a misunderstanding, on the part of both the petitioner and the respondent, of the facts involved, inasmuch as the orders cited above prescribe rates for shipments from Waukesha only, although the Commission recommended that the rates ordered be made effective generally on the intrastate traffic of the railway companies affected. The present case, however, being brought in good faith and upon what appear to be substantial grounds, is considered on its merits. The shipments in question moved before the order of Nov.

29, 1912, 11 W. R. C. R. 98, applying the rates prescribed for shipments of sand, gravel and crushed stone from Waukesha to similar shipments from all points on the respondent's line in Wisconsin, went into effect. *Held:* Inasmuch as the rate upon which the claim for reparation is based has already been held by the Commission, 11 W. R. C. R. 98, to be unreasonable and inasmuch as the respondent gave the petitioner reasonable assurance, upon which the petitioner relied, that the lower rate of the respondent's competitor would be met, refund should be granted. The respondent is therefore ordered to refund to the petitioner all sums wrongfully collected in excess of the reasonable sum of $3,827.07 for the transportation of the carload shipments listed. *So. Wis. Sand & Gravel Co. v. C. M. & St. P. R. Co.* 380, 389.

12. The complainant alleges that the respondent charged it an unjust and unreasonable rate for the transportation of hay in carloads between certain points in Wisconsin. The rate complained of was declared excessive in *Wausau Advancement Association v. C. & N. W. R. Co.* 1913, 12 W. R. C. R. 438. The shipments in question were involved in the complaint in the case cited but refunds were not authorized for the reason that the petitioner in that case was not a "person aggrieved" within the meaning of the law. (Sec. 1797—37m.) *Held:* The shipments should have moved at the rate of 10 cts. per 100 lb., found to be reasonable in the case cited above. Refund is ordered on this basis for such shipments as moved within the then statutory period of one year previous to the time the complaint was filed. *Northern Milling Co. v. C. & N. W. R. Co.* 468, 470.

Refund from excess charge based on a switching charge which is excessive as compared with the reciprocal switching rate.

13. The complainant alleges that excessive and unreasonable charges were exacted from it for the movement of 31 cars from one of its plants located on the M. St. P. & S. S. M. Ry. in Waukesha to another plant located on the C. M. & St. P. Ry. in Waukesha. Only one of the 31 cars moved less than a year prior to the filing of the complaint, which was filed before ch. 66, laws of 1913, increasing the time in which such complaints may be filed from one year to two years, went into effect and therefore the charge on this car only can be considered. The charge in question was $7, made up of $5 for the services of the M. St. P. & S. S. M. Ry. Co. and $2 for the services of the C. M. & St. P. Ry. Co. The latter rate was according to tariff, but there is no tariff authority for the $5 charge, which should have been $4. *Held:* The charge exacted was excessive. Six dollars would have been a reasonable charge and refund is ordered on that basis. *Waukesha Lime & Stone Co. v. C. M. & St. P. R. Co. et al.* 534, 537.

Refund from excess charge based on unreasonable rate and minimum weight and failure to absorb switching charges out of line of haul earnings.

14. The complainant alleges that it was overcharged for the transportation of a number of carloads of gravel and crushed stone, from Waukesha to various points, through the action of the C. & N. W. Ry. Co. in: (1) failing to absorb switching charges out of a $15 line haul earning; (2) applying the marked capacity of the car as the minimum weight for carload shipments; and (3) applying rates on file at the time, but subsequently reduced as unreasonable by the Commission, to shipments moving prior to July 27, 1912. *Held:* 1. The absorption of switching charges by the C. & N. W. Ry. Co. out of line haul earnings, insofar as possible without reducing the latter below $15, is correct according to the company's tariffs and is reasonable. 2. The applica-

tion of the marked capacity of the car as the minimum weight for carload shipments, though correct according to the company's tariff put into effect for carload shipments of sand and gravel in compliance with the Commission's order of June 24, 1912, 9 W. R. C. R. 347, was unreasonable and is contrary to the present practice of the respondent company and other carriers in fixing the minimum weight at 90 per cent of the marked capacity of the car, which would have been reasonable in the instant case. 3. The rates ordered by the Commission on June 24, 1912, 9 W. R. C. R. 347, were reasonable at the date of the earliest movement of carloads of stone and gravel over which the Commission has jurisdiction under the present complaint. Refund is therefore ordered. Inasmuch, however, as the original records of the shipments in question have not been submitted, the Commission cannot undertake to compute the amount of reparation due the complainant, unless the parties submit their original records to the Commission for the determination of these amounts. The C. & N. W. Ry. Co. is accordingly authorized to refund to the complainant an amount equal to the excess of the actual charge over the proper charge, as calculated upon the basis of the above holdings, for every carload of stone and gravel moved for the complainant over the C. & N. W. Ry. from Waukesha to West Allis, Cudahy, Milwaukee, Racine, Racine Jct. or Layton Park at any time during the period beginning April 3, 1912, and ending April 2, 1913. *Waukesha Lime & Stone Co. v. C. & N. W. R. Co. et al.* 368, 369–371.

Refund from excess charge caused by failure of carrier to absorb switching charges correctly.

15. The complainant alleges: (1) that it was overcharged on a number of shipments of slab wood, kiln wood and cordwood moving from points in Wisconsin on the "Soo" line to Waukesha and there turned over to the C. M. & St. P. Ry. Co. for delivery to the complainant at its plant on the C. M. & St. P. Ry. Co's tracks. The complaint appears to be based primarily upon a misunderstanding of the rule in the "Soo" line's tariff for the absorption of switching charges of connecting lines. This rule provides for the absorption by the "Soo" line at junction points on its Chicago division of "the switching charges of connecting lines, or such portion of them as will not reduce charges below $15 per car, if from or to stations on its line, or $20 per car if from or to stations on connecting lines." The term "charges," as used in the rule, evidently means the line haul charges of the issuing line and not the total charges including both the line haul charges and the switching charge. *Held:* The absorption of the switching charges as made by the "Soo" Ry. Co. on the cars named in the complaint was reasonable and correct insofar as may be determined from the record of weights and charges presented by the complainant. The petition is dismissed. *Waukesha Lime & Stone Co. v. M. St. P. & S. S. M. R. Co. et al.* 372, 373–374.

Refund from excess charge caused by failure of carrier to absorb switching charges out of line haul earnings.

See ante, 14.

Refund from excess charges caused by failure to protect an intermediate point in a rate which was subsequently extended to cover the more distant points.

16. The petitioner alleges that the rate of 4 cts. per 100 lb., charged by the respondent for carload shipments of grain from Richfield to Milwaukee, is erroneous, illegal, unusual and exorbitant and asks that

the rate of 3½ cts. applying over the M. St. P. & S. S. M. Ry. for shipments from Duplainville, Templeton and Colgate to Milwaukee be established, and that refund be authorized on certain shipments made by the petitioner. Since the hearing the rate on grain to Milwaukee from the points named and other nearby points competing with Richfield has been changed from 3½ cts. to 4 cts. by all railroads passing through these points, and the petitioner is satisfied with this adjustment. Only the matter of reparation, therefore, remains to be determined by the Commission. *Held:* The petitioner is entitled to reparation. Refund is accordingly ordered on the basis of the 3½ ct. rate. *Wolf v. C. M. & St. P. R. Co.* 375, 377.

Refund from excess charge due to diversity of rates in the tariff on different divisions of carrier's line.

17. The petitioner (1) alleges that the rate of 4 cts. per cwt. exacted by the respondent for the transportation of 4 cars of fuel wood from Kennan to Phillips was excessive to the extent that it exceeds a rate of 3 cts. cwt. and asks for refund and (2) prays that a rate of 3 cts. per cwt. be established for fuel wood moving between Kennan and Phillips. The respondent states that the confusion in the rate applied was due to the existence of two distinct tariffs, one on its Wisconsin and Peninsula division and the other on its Chicago division, and that it is now preparing a new fuel wood distance tariff providing a rate of 3 cts. for a distance of 30 miles and expresses its willingness to make the refund requested. *Held:* The rate complained of is unreasonable. A reasonable rate would not exceed 3 cts. per cwt. It is therefore ordered: (1) that the respondent put into effect a rate of 3 cts. per cwt. on fuel wood in carloads from Kennan to Phillips; and (2) that the respondent be authorized to refund to the petitioner the excess of the charges paid by him on the shipments in question over the amount found to be reasonable compensation for the services rendered. *Sullivan v. M. St. P. & S. S. M. R. Co.* 687, 689.

Refund from excess charge due to failure to include petitioner within the terms of a switching tariff.

18. The petitioner alleges that the charge assessed by the respondent for the transportation of 6 carloads of material for use in the construction of a paint and plating shop for the respondent at West Milwaukee was unusual and exorbitant and contends that the charge should have been made on a switching basis, inasmuch as the length of the haul was only one and a half miles and other points in the immediate vicinity and beyond are placed on a switching basis. When the shipments in question moved the respondent's switching tariff provided for switching rates between industries named in the tariff, but the consignee in the instant case, not being named in the tariff, was not entitled to receive the switching rates and was charged the distance rate for five miles or less. The respondent, however, subsequently modified its tariff to eliminate the discrimination presented by such cases. *Held:* The charge complained of was unusual and exorbitant. The reasonable charge would have been $5 per car and refund is ordered on this basis. *Milwaukee Structural Steel Co. v. C. M. & St. P. R. Co.* 673, 675.

Refund from excess charge exacted in error.

19. The petitioner alleges that the respondent charged it at the rate of 13½ cts. per 100 lb., subject to a minimum weight of 30,000 lb. per car, for the transportation of two cars of excelsior from Rice Lake to Waukesha, instead of at the rate of 11½ cts. per 100 lb., subject to a minimum weight of 20,000 lb. per car, provided in the respondent's

tariff. The respondent admits these allegations and joins in the prayer for relief. *Held:* The charge complained of was illegal and erroneous. Refund is ordered on the basis of the proper charge of 11½ cts. per 100 lb. *Selle & Co. v. M. St. P. & S. S. M. R. Co.* 635, 636.

Refund from excess charge on basis of improper routing.

20. The petitioner complains of the routing given a car of coke transported by the respondents from Racine to North Fond du Lac and asks for refund of the excess of the charge exacted above the charge which the petitioner alleges should have been assessed if the car had been properly routed. The car moved via the C. & N. W. Ry. from Racine to Waukesha and via the M. St. P. & S. S. M. Ry. from Waukesha to North Fond du Lac, and the total charge assessed includes the sum of the local rates plus the switching charge of a connecting line. The petitioner contends that the shipment should have moved via the C. & N. W. Ry. to Fond du Lac and that the reasonable switching charge which should have been made by the M. St. P. & S. S. M. Ry. Co. for delivery at North Fond du Lac should have been absorbed by the C. & N. W. Ry. Co. *Held:* Although the shipment in question, in view of a carrier's obligation to choose the route having the less distance when the carrier has the choice of two possible routings, should have moved via Fond du Lac, the charge for transportation by this route would have been identical with the charge actually exacted. The petitioner has therefore suffered no injury and his petition, insofar as it relates to the matter of refund, is dismissed. *Callaway Fuel Co. v. C. & N. W. R. Co. et al.* 694, 697.

Refund from excess charge on basis of rule providing for absorption of switching charges.

21. The petitioner alleges that the refusal of the respondent to absorb the connecting line switching charges on the in-movement of carload shipments of grain stopped in transit to be milled at the petitioner's mill at Janesville and reshipped over the respondent's line is unreasonable and that this refusal results in the exaction of exorbitant charges. The petitioner also asks for refund on certain shipments. The respondent formerly absorbed the switching charges in question but in a tariff effective Aug. 2, 1912, adopted a rule abandoning this practice. All shipments over the respondent's lines delivered to the petitioner have to be switched over the tracks of the C. M. & St. P. Ry. Co. as the respondent's tracks do not extend to the petitioner's mill. The present rule on switching charges was approved by the Commission in the belief that the respondent's statement that the old rule caused considerable confusion among its local agents and that there would be very few instances where the respondent would get a haul on a shipment of grain to be milled at an industry located on another line was correct. It appears, however, that in the case of the present petitioner shipments of this kind are numerous. The respondent contends in its answer to the petitioner: (1) that the business covered by the complaint was chiefly interstate; (2) that the milling-in-transit of grain was a privilege granted to shippers at a considerable expense to the company; and (3) that it generally required twice as many cars to ship out the mill produce as to bring in the grain. *Held:* The respondent's rule in force prior to Aug. 2, 1912, providing for the absorption of the switching charges of connecting lines at the stopping point on the in-movement of grain stopped in transit to be milled, should be reinstated and all charges brought about by the change in this rule on the date named should be refunded. Inasmuch, however, as the data submitted with respect to the charges complained of do not show whether the shipments involved were intrastate or interstate, the Com-

mission cannot authorize refund at this time. *Blodgett Milling Co. v. C. & N. W. R. Co.* 782, 789.

Refund from excess charge ordered on basis of actual weight of shipment.

See post, 9.

Refund from excess charge ordered on basis of rates for shortest available route and the actual weight of the shipment.

22. The petitioner alleges that it was overcharged for the transportation of a carload of twine from Waupun to Menomonie through the assessment of charges on a weight of 30,000 lb. instead of the correct weight of 28,000 lb. and the movement of the shipment by the most expensive route. The shipment moved from Waupun to Camp Douglas over the C. M. & St. P. Ry. and from the latter point to Augusta over the C. St. P. M. & O. Ry. The shipment should have moved as directed by the petitioner from Waupun to Burnett Jct. by way of the C. M. & St. P. Ry. and thence to Menomonie by way of the C. & N. W. Ry. and the C. St. P. M. & O. Ry. It appears that the actual weight of the shipment was 27,000 lb. *Held:* The petitioner is entitled to reparation on the basis of the actual weight of the shipment and the rate over the cheaper route. Refund is therefore ordered on this basis. *Kraft, Radtke & Quilling Co. v. C. M. & St. P. Co. et al.* 393, 394.

Refund from excess charge ordered on basis of reasonable minimum weight subsequently made effective.

See ante, 14.

Refund from excess charge ordered on basis of reasonable rates established by order of the Commission.

See also ante, 14.

23. The petitioner alleges that the respondent exacted a rate of 3 cts. per cwt. for the transportation of eight cars of ground wood pulp shipped from Rothschild to Brokaw beween July 11, 1912, and August 3, 1912, and prays for the refund of the excess of the charges paid above the charges assessable on the basis of the 2 ct. rate prescribed by the Commission for shipments of the kind in question in its order of July 11, 1912 (9 W. R. C. R. 400). The respondent admits the overcharges alleged insofar as the three cars moved after the Commission's order became effective on July 31, 1912, are concerned and has adjusted these overcharges with the petitioner. The respondent contends, however, that the rate of 3 cts. per cwt. was properly assessed on the five shipments which moved prior to July 31, 1912. *Held:* The rate of 2 cts. per cwt. fixed in the order of July 11, 1912, to become effective on July 31, 1912, was reasonable as far back as July 11, 1912. Refund is ordered on this basis. *Wausau Paper Mills Co. v. C. M. & St. P. R. Co.* 690, 693.

Refund from excess charge ordered on basis of reasonable rate in effect on a competing line.

See ante, 3, 11.

Refund from excess charge ordered on basis of reasonable rate subsequently made effective.

24. The petitioner alleges that the respondent charged it an unusual and exorbitant rate for the transportation of certain carload shipments of slag from Milwaukee to Horicon. The rate in question, 5 cts. per

100 lb., was in accordance with the respondent's tariff at the time the shipments moved but has since been reduced to 50 cts. per ton of 2,240 lb. *Held:* The rate complained of was unusual and exorbitant. Refund is ordered on the basis of a rate of 50 cts. per ton of 2,240 lb. which would have been adequate compensation for the service rendered. *International Harvester Corporation v. C. M. & St. P. R. Co.* 640, 641.

25. The petitioner alleges that the charge of 6 cts. per cwt. exacted by the respondent for the transportation of 77 carloads of granite blocks from Ablemans to Milwaukee is unusual and exorbitant and asks for refund of the excess of the amount collected above the amount assessable on the basis of a rate of 4 cts. per cwt. which the petitioner alleges is a reasonable rate, the rate now in effect and the rate in effect at the time the shipment moved from Red Granite, Montello, Stevens Point and other Wisconsin points to Milwaukee and Chicago. *Held:* For reasons stated in *Milwaukee Sand Stone Co. v. C. & N. W. R. Co.* 13 W. R. C. R. 671, the charge complained of was unusual and exorbitant and the rate of 4 cts. per cwt. is a reasonable rate for the services rendered. Refund is ordered on this basis. *White Rock Quarry Co. v. C. & N. W. R. Co.* 669, 670.

26. The petitioner alleges that the charge of 6 cts. per cwt. exacted by the respondent for the transportation of nine shipments of stone paving blocks from Ablemans to Milwaukee was excessive and prays for refund of the excess of the amount collected above the amount assessable on the basis of a rate of 4 cts. per cwt., which is the rate in effect for similar shipments moving from Red Granite, Montello, Stevens Point and other Wisconsin points to Milwaukee and Chicago. The respondent put the rate of 4 cts. in effect after the shipments in question moved and concedes that the petitioner's claim for reparation is valid. *Held:* The charge complained of was unreasonable and exorbitant. The reasonable rate would have been 4 cts. per cwt. Refund is ordered on this basis. *Milwaukee Sand Stone Co. v. C. & N. W. R. Co.* 671, 672.

27. The petitioner alleges that the respondent overcharged it for the transportation of two carloads of sand from Portage to Milwaukee and one carload of sand from Portage to Racine, in that the respondent wrongly classified the sand as moulding sand and applied a rate later made applicable only to moulding sand. It appears that the respondent's tariff at the time the shipments moved provided one rate for all grades of sand but that subsequently a new tariff was put into effect which maintained this rate for moulding sand but fixed lower rates for other sand. *Held:* The charges complained of were excessive. The reasonable rate for the transportation of the two cars of sand from Portage to Milwaukee would have been the present distance rate of 2.82 cts. per cwt. for sand other than moulding sand moving a distance of ninety-five miles and the reasonable rate for the transportation of the car of sand from Portage to Racine would have been the present distance tariff rate of 3.2 cts per cwt. for sand other than moulding sand. Refund is ordered on this basis. *Moritz v. C. M. & St. P. R. Co.* 684, 686.

28. The petitioner alleges that the respondent has exacted for the transportation of wooden boxes, in carloads, from Wausau to New London rates and charges which are unjust and unreasonable when compared with rates exacted for the transportation of the same commodity between similar points in Wisconsin and asks for refund on certain shipments. The charges complained of were based on the published tariff of the respondent but the rates on lumber and the box rates depending on the lumber rates have been voluntarily reduced by the respondent since the shipments moved. *Held:* The charges complained of were excessive and unreasonable. Refund is ordered on the basis of the rates now in effect. *Wausau Box & Lumber Co. v. C. & N. W. R. Co.* 698, 701.

29. The petitioner alleges that the rates charged by the respondent for the transportation of lumber and wooden boxes from Wausau to New London are unjust and unreasonable as compared with corresponding rates to other points and asks that the respondent be directed to make refund of alleged excessive charges to certain shippers. Since the hearing the respondent has reduced its rate on lumber and wooden boxes from Wausau to New London to the point claimed as reasonable by the petitioner. The charges upon which refunds are asked were based upon lawful rates. *Held:* The Commission is without power to decide upon the merits of complaints against lawful charges or to authorize refund of any part of such charges except on complaint of a person aggrieved by the exaction of the charges. Inasmuch as the petitioner in the instant case is not a person aggrieved and therefore entitled to ask for refund and inasmuch as a change in rates which satisfies the petitioner has been made, the petition is dismissed. *Wausau Advancement Assn. v. C. & N. W. R. Co.* 772, 774.

Refunds ordered on specific shipments.

Refund on shipment of bark, *see ante*, 9.
of boxes, *see ante*, 28.
of building material, *see ante*, 18.
of car stakes, *see ante*, 10.
of crushed stone and gravel, *see ante*, 14.
of excelsior, *see ante*, 19.
of fuel wood, *see ante*, 17.
of grain, *see ante*, 16.
of granite blocks, *see ante*, 25.
of gravel and crushed stone, *see ante*, 14.
of gravel and sand, *see ante*, 11.
of hay, *see ante*, 12.
of paving blocks, *see ante*, 26.
of pulp, *see ante*, 23.
of sand, *see ante*, 27.
of sand and gravel, *see ante*, 11.
of slag, *see ante*, 24.
of stone paving blocks, *see ante*, 26.
of tanbark, *see ante*, 9.
of twine, *see ante*, 22.
of wood, *see ante*, 17.
of wood pulp, *see ante*, 23.
of wooden boxes, *see ante*, 28.

Refunds, petitions for, dismissed.

Petition for refund on shipment of boxes and lumber, dismissed, *see ante*, 29.
of coke, dismissed, *see ante*, 20.
of cordwood, slab wood and kiln wood, dismissed, *see ante*, 15.
of dry slab wood and edging, dismissed, *see ante*, 8.
of edging and dry slab wood, dismissed, *see ante*, 8.
of grain, dismissed, *see ante*, 21.
of kiln wood, slab wood and cordwood, dismissed, *see ante*, 15.
of lumber and wooden boxes, dismissed, *see ante*, 29.
of slab wood, kiln wood and cordwood, dismissed, *see ante*, 15.
of wood, dismissed, *see ante*, 8, 15.
of wooden boxes and lumber, dismissed, *see ante*, 29.

RESERVES.

Depreciation reserve charge, *see* DEPRECIATION, 4.
Reserve for injuries and damages, allowance for, *see* INJURIES AND DAMAGES, 1.

RETURN.

Property employed in public utilities—Reasonable return to owner necessary.

1. It devolves upon the Commission to regard the demand for a reasonable return upon actual investment and for services rendered on the part of the utility, as fundamental in establishing and maintaining adequate service for the community—on the assumption, always, that ordinary intelligence and honesty have been shown in establishing the utility. More than the welfare of any given utility or community under consideration is involved in this. If the principle were unwisely disregarded in any one case, it would be an effectual bar to the securing of funds to develop new utilities or improve existing ones throughout the entire state. *In re Darlington El. Lt. & W. P. Co.* 344, 346.

What constitutes a reasonable return for public service companies.

2. Under the constitution, as well as under the statutes, a public service company is ordinarily entitled to rates that will yield reasonable amounts for operating expenses, including depreciation, and for interest and profit on the fair value of the property employed. Of this, in the long run, such companies cannot be deprived even if the Commission were short sighted enough to attempt it. *In re Service of T. M. E. R. & L. Co. in Milwaukee*, 178, 215.

What constitutes a reasonable return for public utilities.

3. For growing utilities where rate adjustments cannot, in the very nature of things, be of very frequent occurrence and for which, owing to the law of increasing returns, the net earnings both actually and relatively are gradually increasing, fairness often demands that the returns allowed for the first year or at the time the rates are adjusted should be below rather than above the normal figures. *In re Service of T. M. E. R. & L. Co. in Milwaukee*, 178, 240.

4. Interest and necessary profits are usually included in the term "reasonable return." *In re Invest. Mosinee El. Lt. & P. Co.* 712, 716.

5. As the utility plant in the instant case is a new property located in a small village, and as the earnings appear to warrant it, interest and necessary profits have been placed at 8 per cent on the fair value. *In re Invest. Mosinee El. Lt. & P. Co.*, 712, 716.

What constitutes a reasonable return for street railway companies.

6. Under normal conditions a rate of return of 7.5 per cent for interest and profit on such a valuation as that allowed in the *Fare Case* (*City of Milwaukee v. T. M. E. R. & L. Co.* 1912, 10 W. R. C. R. 1) and under such other conditions as obtained in that case, is ordinarily sufficient to bring the necessary capital into the service. *In re Service of T. M. E. R. & L. Co. in Milwaukee*, 178, 231.

RIVER IMPROVEMENTS.

Jurisdiction of Commission over river improvements, *see* RAILROAD COMMISSION, 12.

ROUTE SIGNS.

Street railways, route signs to be displayed on cars to improve service of, *see* STREET RAILWAYS, 18.

ROUTING.

Routing of shipments—Duty of railway company to route shipments over lines whereby the distance will be the least.

1. Where a carrier has the choice of two possible routings for the transportation of a shipment, no specific instructions being given by the shipper and the rates being the same by both routes, it is the duty of the carrier to choose the route having the less distance. *Callaway Fuel Co. v. C. & N. W. R. Co. et al.* 694, 696.

RULES AND REGULATIONS.

Duty of Commission to enforce reasonably adequate service and facilities.

1. It is the duty of the Commission to ascertain from all the facts and circumstances presented in any case the reasonableness of any rule or regulation respecting service and, if it shall determine that such rule or regulation is unreasonable, to change the same or substitute a reasonable rule or regulation in place thereof. *In re Use of Silent Numbers by Wis. Tel. Co.* 587, 593.

Requirements as to payment of rates for services rendered by public utility.

2. A public utility may refuse to furnish service unless the charges for such service are prepaid, or a sum of money sufficient to secure the payment for services rendered during any future interval for which credit is extended, or a bond to secure such payment is deposited with the utility, but the utility may not condition the furnishing of service upon the liquidation of indebtedness of the utility for past service. *In re Refusal of Service of Madison G. & El. Co.* 518, 522.

3. When a consumer moves from one place of residence to another he may doubtless be treated as a new consumer and be obliged to comply anew with the rules and regulations then in effect before receiving service at his new place of residence. The acceptance of the application for service at the new place of residence then constitutes a new and independent contract distinct from the contract for service at the former place of residence. *In re Refusal of Service by Madison G. & El. Co.* 518, 521.

4. A public utility which requires a deposit of money to secure the payment of bills for future service before rendering service to an applicant cannot apply the deposit to the payment of indebtedness previously incurred by the applicant, but must look for its remedies to the courts of law. *In re Refusal of Service by Madison G. & El. Co.* 518, 522.

Requirements as to payment of rates for services rendered by public utility—Necessity for prompt payment.

5. A public utility owes a duty, not only to itself but to its patrons as a whole, to collect promptly all indebtedness due for services rendered, for "In conserving the revenues of such corporation and preventing reductions in the same from loss of accounts, the public is as much interested as the directors and stockholders of the company, for any material reduction in revenues, however caused, generally results, and often necessarily so, in increasing the cost of the service to the patron and diminishing the return to the stockholder. The burden thus occasioned is invariably cast upon and must be borne by both the public and the shareholders, in varying proportions, depending upon the circumstances of each particular case." (*Berend v. Wis. Tel. Co.* 4 W.

R. C. R. 155.) *In re Refusal of Service by Madison G. & El. Co.* 518, 522.

Requirements as to payment of rates for services rendered by public utility—Necessity for prompt payment—Duty of utility to establish rules and regulations.

6. It is the duty of a public utility to establish rules and regulations having for their purpose the enforcement of prompt payment of all accounts due for services when rendered. *In re Refusal Farmers' Union Tel. Co. to Furnish Service*, 399, 401.

Requirements as to payment of rates for services rendered by public utility—Payments to be uniform without reference to contractual relations between utility and its customers.

7. The refusal of the telephone company to accept as full payment for its services a sum less than the full rate which other subscribers are required to pay for similar services was in accord with the plain duty of the company under sec. 1797m—90 of the statutes. It is the intent of this section that the payment for services rendered by a utility shall be uniform without reference to any contractual relations existing between the utility and its subscribers. *In re Refusal Farmers' Union Tel. Co. to Furnish Service*, 399, 400.

Requirements as to payment of rates for services rendered by public utility—Regulations for discounts or penalties—Refusal of service.

See also ante, 2.

8. Though a telephone company is justified in discontinuing service to a subscriber upon his refusal to pay bills rendered him in full, when the subscriber asks for a renewal of service the company is not justified by the existence of his previous indebtedness in refusing to give him present service if he is ready and willing to give the company reasonable security for the payment of future bills. *In re Refusal Farmers' Union Tel. Co. to Furnish Service*, 399, 401–402.

9. The rule followed in the instant case is stated in 1. Wyman on Public Service Corporations, 451, as follows: "As one in public service may always demand prepayment, having given credit, the company must be content as other creditors must be to collect its back bills by legal means. To attempt to make such collections by refusing present service for ready money would seem to be in the face of the public duty." *In re Refusal Farmers' Union Tel. Co. to Furnish Service*, 399, 402.

Requirements as to payment of rates for services rendered by public utility—Regulations for discounts or penalties—Refusal of service.

10. The authorities are not in accord as to the obligation of a public utility to serve an applicant who is in arrears at other premises, although he tenders ready money for present service, but the best considered cases take the view that it is inconsistent with public duty to refuse service under such circumstances. *In re Refusal of Service by Madison G. & El. Co.* 518, 521.

Requirements as to payment of rates for services rendered by public utility—Regulations for discount or penalties—Withdrawal of service.

11. In the present case the company has not established any rule for the enforcement of prompt payment of rentals. However, in the absence of such rule it could not be compelled to furnish to a subscriber service free of charge, for that would be a violation of the statute quoted. Consequently, when a patron refuses to pay the full amount of rental at the end of the period when the rental becomes due, the company should discontinue his service. In this case the company, in the absence of any rule protecting it against loss of revenue from the refusal of patrons to meet their obligations, discontinued complainant's service when he refused to pay the bill in full, and its act in the premises cannot be questioned. *In re Refusal Farmers' Union Tel. Co. to Furnish Service*, 399, 401–402.

12. Complaint is made by the Farmers' Tel. Co. of Beetown that the C. & N. W. Ry. Co. refuses to pay for a telephone installed in its depot at Lancaster. *Held:* The proper course to follow, if telephone rental is not paid within a reasonable time, would be to take out the telephone. *In re Appl. Farmers' Tel. Co. of Beetown*, 540, 576.

Requirements as to payment of rates for services rendered by public utility—Regulations for money deposit or security.

See ante, 2, 4, 8–10; *post*, 13–14.

Requirements as to payment of rates for services rendered by public utility—Regulations for money deposit or security—Application of deposit of payment of indebtedness previously incurred not permissible.

13. A public utility which requires a deposit of money to secure the payment of bills for future service before rendering service to an applicant cannot apply the deposit to the payment of indebtedness previously incurred by the applicant, but must look for its remedies to the courts of law. *In re Refusal of Service by Madison G. & El. Co.* 518, 523.

Requirements as to payment of rates for services rendered by public utility—Regulations for payment of rates in advance.

See ante, 2, 8–10.

Requirements as to payment of rates for services rendered by public utility—What are reasonable regulations.

14. The following rules for the protection of a public utility against loss of operating revenues because of uncollectible accounts, and for the securing of prompt receipt of all moneys due for services performed or protection furnished, may be deduced as reasonable regulations which may be lawfully prescribed and enforced by a public utility: 1. It may require of any patron the deposit of a reasonable sum of money as security for the prompt payment of bills when due. In determining the reasonableness of the amount thus to be deposited, the probable amount of the indebtedness that may be incurred during the month or other stated period at the end of which bills are made out and rendered, is an important factor. No more than a sum sufficient to furnish adequate security for the credit extended may be legally exacted. 2. It may require satisfactory security to be furnished in lieu of such

deposit. 3. It may allow a discount upon bills paid on or before a stated day, or exact a penalty for failure to make payment within a certain time. 4. For neglect or refusal on the part of any patron to comply with any of the legal rules and regulations established, it may discontinue service to such patron." (*Berend v. Wis. Tel. Co.* 1909, 4 W. R. C. R. 150, 159.) *In re Refusal Farmers' Union Tel. Co. to Furnish Service*, 399, 401.

RUSH PERIODS.

Street railways, requirements as to service and facilities, adequacy of service, seating capacity of cars during rush periods, *see* STREET RAILWAYS, 22.

SAFETY APPLIANCES.

Automatic crossing alarm for protection of railroad crossing, *see* RAILROADS, 6–7, 10–11.

SALARIES.

Wages of management as element considered in making rates for toll bridges, *see* RATES—TOLL BRIDGE, 1.

SAND.

Refund on shipments, Portage to Milwaukee, *see* RATES—RAILWAY, 37; REPARATION, 27.

Portage to Racine, *see* RATES—RAILWAY, 37; REPARATION, 27.

SAND AND GRAVEL.

Refund on shipments, Janesville to Wisconsin points on the C. M. & St. P. Ry., *see* RATES—RAILWAY, 38; REPARATION, 11.

SCHEDULES.

Schedules for utilities, *see* SCHEDULES FOR UTILITIES, 1–2.
Street car schedules, *see* STREET RAILWAYS, 17–18, 20.
Train schedules, *see* TRAIN SERVICE, 1–8.

SCHEDULES FOR UTILITIES.

DEPARTURE FROM PUBLISHED SCHEDULE PROHIBITED.

In general.

1. The fact that the rates applied for have been in use for some time, as the result of a misunderstanding of the Public Utilities Law, is no indication that they should remain undisturbed. Such rates are illegal until sanctioned by the Commission. *In re Village of Withee*, 704, 705–706.

2. A charge exacted by a utility without the sanction of the Commission is an illegal charge. *In re Appl. Oakfield Tel. Co.* 726, 727.

SCOPE OF LAW.

See PUBLIC UTILITIES LAW; RAILROAD LAW.

SCRAP IRON.

Rates, reduction of, between Milwaukee and Sheboygan, and between Sheboygan and Sheboygan Falls, *see* RATES—RAILWAY, 39.

SECURITY.

SEPARATION OF GRADES.

SERVICE AND FACILITIES.

Adequate service—What constitutes adequate service.

1. "Adequate service is not necessarily the best service which it is possible to give, but rather the best service which can be given with due regard to economy to the consumer and to the company." (*In re Standards for Gas and Electric Service*, 1908, 2 W. R. C. R. 632, 642.) *Vill. of Sharon v. United Heat, Lt. & P. Co.* 1, 5.

SERVICE CHARGE.

See MINIMUM CHARGES.

SHIPPING FACILITIES.

See STATION FACILITIES.

SHORT HAUL.

Length of haul as element considered in making rates for railways, *see* RATES—RAILWAY, 9.

SIDETRACK FACILITIES.

See SWITCH CONNECTIONS.

SIGNS.

Street railway car signs, *see* STREET RAILWAYS, 18.

"SILENT NUMBER" TELEPHONES.

Provision of "silent number" telephones not an unjust discrimination, *see* DISCRIMINATION, 10–11.

SLAB WOOD.

See WOOD.

SLAG.

Refund on shipments, Milwaukee to Horicon, *see* RATES—RAILWAY, 40; REPARATION, 24.

"SPOTTING" OF FREIGHT CARS.

"Spotting" of freight cars on public street, *see* SWITCH CONNECTIONS, 7.

SPUR TRACKS.

See SWITCH CONNECTIONS.

STANDARDS OF SERVICE.

Electric utilities, *see* ELECTRIC UTILITIES, 2, 4.
Oil gas, *see* GAS UTILITIES, 1, 4.

STATION FACILITIES.

Adequacy of station facilities.

1. The petitioner alleges that reasonably adequate service demands the erection of a suitable waiting room at the junction of the respondent's line and the line of the "Soo" railway company in the city of Waukesha, as required by sec. 1862g of the statutes. *Held:* The waiting station now provided by the respondents in the city of Waukesha is reasonably adequate to meet the convenience of the public, and it is not necessary to construct a waiting station at the "Soo" line crossing. *City of Waukesha v. T. M. E. R. & L. Co. et al.* 89, 98.

2. The petitioner alleges that the respondent's freight and passenger station facilities at Belle Plaine, Shawano county, are inadequate and asks that the respondent be required to construct a suitable depot for the accommodation of passengers and the storing of freight and to construct and maintain a yard and loading facilities for stock. The respondent agreed at the hearing to add a waiting room for passengers to the existing building and to employ a caretaker to keep it clean and heated. The respondent has also installed a portable stock chute. Permanent stock yards are available at Embarrass, a point 4½ miles distant. *Held:* The present station facilities, though adequate with respect to the shipment of stock, are in need of improvements in certain other respects. The respondent is therefore ordered to provide the station with a stove and suitable lights and to employ a caretaker who shall keep the station clean and properly lighted and heated. *Ford v. C. & N. W. R. Co.* 418, 420.

3. Petition is made that the C. & N. W. Ry. Co. be required to construct and maintain an adequate depot at Allenville, Winnebago county. The railway company now maintains a box car shelter for freight but provides no shelter for passengers. *Held:* The business transacted by the railway company at Allenville is sufficient to warrant the erection of a building for the accommodation of passengers and proper protection of freight. The company is ordered to provide a building suitable for these purposes and to place it in charge of a caretaker who shall keep it clean and properly lighted and heated. Plans are to be submitted for approval. *Cross et al. v. C. & N. W. R. Co.* 421, 423.

4. The petitioners allege that the station facilities on the respondent's line at Shepley, Shawano county, are inadequate, in that no station agent is maintained there. Shepley is a prepaid station and the

service rendered appears to be similar to that ordinarily afforded at a prepaid station. The passenger traffic is light, and the greater part of the freight consists of forestry products in carload lots. *Held:* Conditions at Shepley do not warrant the issue of an order requiring the respondent to maintain an agent at that point. The petition is therefore dismissed. The respondent should, however, arrange to designate the consignees of empty cars and remove the causes of other minor complaints made by the petitioners. *Pukall et al. v. C. & N. W. R. Co.* 427, 429.

5. The petitioner allges that the station facilities supplied by the respondent at Finley, Juneau county, are inadequate and asks that the respondent be required to install an agent and provide suitable grounds and buildings. The respondent now maintains two small sheds at Finley serving, respectively, as a shelter for passengers and as a freight room. Persons desiring to secure empty cars at Finley can do so by notifying the agent at Babcock or Necedah by mail. Shippers of less than carload freight have to wait at the station for a local train and help to load their goods on to the cars. *Held:* Though the freight and passenger business transacted at Finley does not warrant the establishment of that station as a regular agency, as prayed for by the petitioner, the existing facilities cannot be regarded as adequate. The respondent is therefore ordered to properly repair its freight and passenger sheds at Finley, to employ a competent caretaker who shall have charge of the sheds and see that they are clean and that the passenger room is properly lighted and heated at train times, and to erect a suitable raised platform for loading cream and other articles onto cars, or, at its option, to load such cream and freight. *Rogers v. C. M. & St. P. R. Co.* 617, 619.

6. The petitioner alleges that the failure of the respondent to maintain an agent at its station at Brill in Barron county causes great inconvenience to the patrons of the respondent and asks that the Commission take such action as it deems just in the premises. The respondent has an agreement with a local merchant under which the latter meets all passenger trains to sell tickets and transact other business for the respondent at the depot, bills goods for shipment and transacts business for the respondent at his store at hours other than train times. *Held:* The service now rendered by the respondent at Brill is adequate under the existing traffic conditions. The petition is dismissed. *Pritchard v. C. St. P. M. & O. R. Co.* 625, 627.

7. The petitioner alleges that the depot and station facilities maintained by the respondent at Elroy, Juneau county, are inadequate, unsightly and unsanitary and asks that the respondent be required to provide a new and adequate depot. *Held:* The station facilities in question are inadequate and can be made adequate only by the construction of a new depot. The respondent is ordered to erect a modern and adequate depot, to be open for public use on or before Oct. 1, 1914, plans to be submitted for approval. *Frederick v. C. & N. W. R. Co.* 646, 649.

8. The petitioner alleges that the depot maintained by the C. & N. W. Ry. Co. at the city of Sparta is inadequate and asks that the Commission take such action as it may deem just in the premises. The C. & N. W. Ry. Co. offers to erect a new depot on its line in 1914, subject to the approval of the Commission, and the petitioner accepts this as satisfying his complaint. *Held:* The present station facilities are inadequate. It is ordered that the C. & N. W. Ry. Co. erect a modern passenger depot at Sparta as stipulated by the attorneys in the matter. June 1, 1914, is considered a reasonable date at which the depot shall be completed and open for public use. *McMillan v. C. & N. W. Ry. Co.* 679, 683.

Adequacy of station facilities—Telephone facilities.

9. Complaint is made by the Farmers' Tel. Co. of Beetown that the C. & N. W. Ry. Co. refuses to pay for a telephone installed in its depot at Lancaster. *Held:* The proper course to follow, if telephone rental is not paid within a reasonable time, would be to take out the telephone. Then the telephone company may install a pay station in the depot as provided in *In re Free and Reduced Rate Telephone Service*, 1908, 2 W. R. C. R. 521, 543. In case a pay station does not seem to answer the requirements the telephone company may then apply to the Commission for an order requiring the railroad company to install adequate telephone facilities. *In re Appl. Farmers' Tel. Co. of Beetown*, 540, 576.

Construction of, on interurban lines.

10. On interurban lines it is impossible to construct waiting stations at every stopping point within cities. The cost of acquiring the necessary land and building structures would be so great as to make the expense of rendering such service prohibitive; furthermore, the convenience of the public may require the changing of stopping points from time to time, and in such event new stations would have to be erected and old ones abandoned. *City of Waukesha v. T. M. E. R. & L. Co. et al.* 89, 98–99.

Duty of railway company to provide adequate station facilities.

11. The fact that passengers have been permitted to wait for trains in a store near the depot does not relieve a railway company of its duty to provide adequate station facilities. *Cross et al. v. C. & N. W. R. Co.* 421, 423.

Practicability, public convenience and necessity of union stations in particular cases—Sparta.

12. The petition, filed under ch. 69, laws of 1913, alleges that public convenience and necessity require the erection of a union station at Sparta and prays that the C. & N. W. Ry. Co. and the C. M. & St. P. Ry. Co. be required to establish such a station. The C. M. & St. P. Ry. Co. has recently improved its depot in compliance with the order issued in *McMillan v. C. M. & St. P. R. Co.* 1912, 10 W. R. C. R. 556. Sparta is the junction point of the Wyeville and Elroy lines of the C. & N. W. Ry. Co. and of the main line of the C. M. & St. P. Ry. Co. and its Viroqua branch and passengers transfer to some extent between the stations of the two railroads. *Held:* Public necessity does not require the construction of a union station at Sparta. The petition is therefore dismissed. *Teasdale v. C. M. & St. P. R. Co. et al.* 679, 683.

Station facilities on interurban railways—Location of waiting stations in cities.

See ante, 11.

STATIONS.

See STATION FACILITIES.

STOCKHOLDERS.

Different rates for stockholders and nonstockholders of telephone companies, unlawful discrimination, *see* DISCRIMINATION, 8.

STONE AND GRAVEL.

Refund on shipment, Waukesha, *see* RATES—RAILWAY, 44; REPARATION, 13.

STONE PAVING BLOCKS.

Refund on shipments, Ablemans to Milwaukee, *see* RATES—RAILWAY, 41; REPARATION, 26.

STOPPING OF TRAINS.

Stopping of trains for protection of railway crossings, *see* RAILROADS, 12.

STOPS.

Limitation of stops within a city by cars of interurban railway, *see* INTERURBAN RAILWAYS, 4–5; STREET RAILWAYS, 17.

STORAGE FACILITIES.

See STATION FACILITIES.

STREET.

Public street, right to "spot" freight cars on, *see* SWITCH CONNECTIONS, 7.

STREET LIGHTING RATES.

See RATES—ELECTRIC.

STREET RAILWAY RATES.

See RATES—STREET RAILWAY.

STREET RAILWAYS.

See also INTERURBAN RAILWAYS.

Cost of service of street railways, *see* ACCOUNTING, 14–15.
of street railways, determination of unit costs, *see* ACCOUNTING, 14–15.
Depreciation, rate of depreciation of paving constructed by street railway company, *see* DEPRECIATION, 8.
of street railway plant, *see* DEPRECIATION, 9.

ACCOUNTING.

See ACCOUNTING.

CONSTRUCTION, MAINTENANCE AND EQUIPMENT.

Crossings—Railroad by railroad—Separation of grades—Viaduct.

1. The Commission, on its own motion, investigated the advisability of revising the order issued Jan. 2, 1912 (8 W. R. C. R. 422), in the matter of the Mill street crossing at La Crosse. This order required the construction at Rose street of a viaduct conforming to certain specifications and provided for the division of the expense between the C. M. & St. P. Ry. Co. and the city of La Crosse. Actual work under the order has been deferred from time to time upon request of city officials who have proposed various means other than the remedy ordered by the Commission for eliminating the dangerous conditions now existing

at Mill street. The means proposed include: the construction of a subway at Rose street; the construction of a viaduct at Mill street; the construction of a subway and the elevation of the railroad tracks at Mill street; a general elevation of the railroad tracks and the construction of subways at Mill and certain other streets; and the relocation of the railroad to avoid the present crossings with the streets of the city. *Held:* In view of the present and future needs both of the city and the railway company and the relative expense of making the various alterations proposed, it is advisable to construct a viaduct at Rose street as originally ordered. The apportionment of the expense in the original order, however, appears, in the light of more accurate estimates now available, to be unfair to the city. It also appears desirable to reapportion the work of construction, if the cost is reapportioned. It is therefore ordered that the viaduct be constructed in accordance with specifications set forth and that the C. M. & St. P. Ry. Co. bear 60 per cent, the city 25 per cent, and the Wisconsin Ry. Lt. & P. Co. 15 per cent of the expense incurred. The Wisconsin Ry. Lt. & P. Co. is, with the permission of the city, to change its distribution system so as to operate its cars over the new viaduct instead of over Mill street. The city is to assume responsibility for damages to adjacent property or business arising from the issuance or enforcement of the order or from the proper prosecution of the work ordered. The C. M. & St. P. Ry. Co. is to maintain such portion of the bridge and its approaches as lies within its right of way limits except the planking and pavement on the roadway and the sidewalk, which the city is to maintain. The remainder of the structure is to be maintained by the city. The Wisconsin Ry., Lt. & P. Co. is to maintain its tracks and power distribution system, including those portions upon the viaduct and its approaches. *In re Mills Street Crossing at La Crosse*, 145, 152–155.

Passenger cars, adequacy of.

2. The petitioner alleges that the cars used by the respondent in the city of Waukesha are inadequate and asks that the respondent be required to provide cars which will meet the needs of traffic. *Held:* It would be impracticable to abandon the cars in use and substitute new cars in their places. The respondents should, however, remedy the defects in the present equipment when ordering or constructing new equipment. *City of Waukesha v. T. M. E. R. & L. Co. et al.* 89, 98.

FARES, TICKETS AND SPECIAL CONTRACTS.

See RATES—STREET RAILWAYS.

OPERATION.

Joint use of tracks—Establishment of, in particular cases.

3. The T. M. E. R. & L. Co. petitions, under ch. 62, laws of 1913, for joint use of the tracks, wires and poles owned by the M. N. R. Co. on Wells st., between Fifth and Sixth sts., in the city of Milwaukee. The M. N. R. Co. denies that public convenience and necessity require such joint use of facilities and contends that the Commission is without power to grant the relief asked for prior to the construction by the T. M. E. R. & L. Co. of its tracks on Wells st. from Eleventh st. to Sixth st. The M. N. R. Co. operates in Milwaukee under an ordinance of the city of Milwaukee which reserves to the city the power to grant to any interurban railway or suburban street railway rendering service of like nature to that rendered by the M. N. R. Co. the right to use the tracks, roadway and motive power of the M. N. R. Co. within the limits of the city. Acting under the rights thus reserved to it, the city passed another ordinance on April 14, 1913, directing the T. M. E. R. & L. Co. to extend its tracks on Wells st, from West Water st. to Fifth st. and from

Sixth st. to Eleventh st., connecting with the tracks of the M. N. R. Co. from Fifth st. to Sixth st. The two companies entered into negotiations looking toward an agreement under which the requirements of the ordinance could be fulfilled, but failed to come to such an agreement. The sliding scale car-mile basis proposed by the T. M. E. R. & L. Co. for the calculation of the compensation to be paid by that company to the M. N. R. Co. for the use of its tracks and overhead equipment is defective for the reason that the use of this basis will not permit an accurate adjustment of rates to costs under varying conditions of traffic and with different types of cars. The Commission therefore provides in the present order for the division of costs upon a ton-mile basis under which the T. M. E. R. & L. Co. is to pay such proportion of the costs as the ton-miles operated by it over the portion of track in joint use bear to the total ton-miles operated over this portion of track. The proposal made by the M. N. R. Co., that the monthly compensation to be paid by it to the T. M. E. R. & L. Co. for the use of electric energy, which it seems advisable to have the T. M. E. R. & L. Co. supply for the M. N. R. Co. over the portion of track to be subject to joint use, be equal only to the output cost of the M. N. R. Co. seems fair to both companies. In view, however, of the difficulties which would probably arise if the amount of the charge were left to the two companies to determine, the fact that the amounts involved are too small to justify an investigation by the Commission and the further fact that the rate of 1 ct. per kw-hr. offered by the T. M. E. R. & L. Co. is admittedly not excessive, it seems best to adopt the rate last mentioned. *Held:* Public convenience and necessity require the joint use of the facilities in question, for the purpose of providing part of the additional trackage and greater flexibility in car routing necessary to prevent the overloading of the cars of the T. M. E. R. & L. Co. and permit the company to render adequate service. Such joint use will not prevent the M. N. R. Co. from performing its public duties nor result in irreparable injury to it or in any substantial detriment to the service. It is therefore ordered that the M. N. R. Co. permit the joint use of that portion of its system located on Wells st. between Fifth st. and Sixth st. by the cars of the T. M. E. R. & L. Co., and by the cars of any other company or companies which the T. M. E. R. & L. Co. may operate over its own tracks, subject to terms and conditions prescribed by the Commission. As a condition precedent to the obligations of the M. N. R. Co. under this order, however, the T. M. E. R. & L. Co. is to give substantial evidence of its acceptance of, and intention to comply with, the terms of the ordinance of April 14, 1913. The terms and conditions prescribed by the Commission relate chiefly to the observance of the prior, paramount and preferential right of the M. N. R. Co. to the use of its tracks and power in the city of Milwaukee; the duties, responsibilities and rights of each company with respect to the making of the necessary changes, new construction and connections required to render possible the joint use of tracks ordered, the maintenance of this construction, and its removal or alteration in case the joint use of tracks is, for any valid reason, terminated; the furnishing of the electric energy required for the operation of cars over the portion of track subject to joint use; the payment of licenses and special taxes on the cars so operated; the responsibility of each company for the fulfillment of its lawful obligations with respect to the tracks in question and for losses, damages and expenses sustained by reason of personal injuries resulting from the operation of cars over the portion of track in joint use; the compensation to be paid by the M. N. R. Co. to the T. M. E. R. & L. Co. for the electric energy used by the M. N. R. Co. in operating its cars over these tracks; and the compensation to be paid by the T. M. E. R. & L. Co. to the M. N. R. Co. for the use of the said tracks and other property of the M. N. R. Co. *T. M. E. R. & L. Co. v. M. N. R. Co.* 268, 286–298.

4. The T. M. E. R. & L. Co. petitions for joint use of the tracks, wires and poles owned by the Chi. & Mil. El. Ry. Co. on Wells st., between Second and Fifth sts., in the city of Milwaukee. The Chi. & Mil. El. Ry. Co. denies that public convenience and necessity require such joint use of facilities and contends that the T. M. E. R. & L. Co. is not in a position to ask for an order for such joint use until that company has constructed its tracks on Wells st. according to the terms of the ordinance alleged to grant the company the right to use the street named. The Chi. & Mil. El. Ry. Co. also contends that the Commission has no legal or constitutional power to assume jurisdiction in the matter. The Chi. & Mil. El. Ry. Co. operates in Milwaukee under franchises which reserve to the city the right to grant to the T. M. E. R. & L. Co. permission to use the tracks of the Chi. & Mil. El. Ry. Co. under certain terms and conditions. Acting under the power thus reserved to it the city passed an ordinance on April 14, 1913, directing the T. M. E. R. & L. Co. to extend its tracks as specified on Wells st. and authorizing the company, in effect, to make use of the Chi. & Mil. El. Ry. Co's tracks on Wells st. between Second and Fifth sts. The two companies entered into negotiations looking towards an agreement under which the requirements of the ordinance might be fulfilled but failed to come to such an agreement. The objection of the Chi. & Mil. El. Ry. Co., that the joint use of its tracks will diminish the value of its property through the adverse effect upon its business of the delays arising from such use and because the possession by the T. M. E. R. & L. Co. of the right to such use would be an encumbrance upon the property, does not appear to be well founded. The franchise under which the Chi. & Mil. El. Ry. Co. claims to operate provides for a joint use such as that now proposed, and, moreover, it seems probable that this joint use will result in financial gain rather than injury to the company. Each of the two companies claims the privilege of supplying power for the operation of cars over the portion of track to be subject to joint use. If the two companies could come to an agreement as between themselves to string two sets of trolley wires over this portion of track the Commission would probably approve such an arrangement, but in view of the friction and suspicion likely to arise from the creation of an opportunity for the theft of power by one company from the other the Commission is not inclined to order the installation of two sets of trolley wires. Ordinarily it would seem that the company owning the tracks should be permitted to furnish the power, if it desires to do so and is in a position to give adequate power service. Under the circumstances of the present case, however, it seems necessary to have the T. M. E. R. & L. Co. furnish the power. *Held:* The Commission has power to act in this matter under the authority given by ch. 62, laws of 1913. The joint use of the facilities in question is required by public convenience and necessity, for the purpose of providing part of the additional trackage needed to permit the T. M. E. R. L. Co. to reroute certain lines and thus relieve congestion of traffic during rush hours. Such joint use will not prevent the Chi. & Mil. El. Ry. Co. from performing its public duties nor result in irreparable injury to it or in any substantial detriment to the service. It is therefore ordered that the Chi. & Mil. Ry. Co. permit the joint use of that portion of its system located on Wells st. between Second st. and Fifth st. by the cars of the T. M. E. R. & L. Co., and by the cars of any other company or companies which the T. M. E. R. & L. Co. may operate over its own tracks, subject to terms and conditions prescribed by the Commission. These terms and conditions relate chiefly to: the observance of the prior, paramount and preferential right of the Chi. & Mil. El. Ry. Co. to the use of its tracks and power in the city of Milwaukee; the duties, responsibilities and rights of each company with respect to the making of the necessary changes, new construction and connections required to render possible

the joint use of tracks ordered, the maintenance of this construction and its removal or alteration in case the joint use of tracks is, for any valid reason, terminated; the furnishing of the electric energy required for the operation of cars over the portion of track subject to joint use; the payment of car licenses and special taxes on the cars so operated; the responsibility of each company for the fulfillment of its lawful obligations with respect to the tracks in question and for losses, damages and expenses sustained by reason of personal injuries resulting from the operation of cars over the portion of track in joint use; the compensation to be paid by the Chi. & Mil. El. Ry. Co. to the T. M. E. R. & L. Co. for the electric energy used by the Chi. & Mil. El. Ry. Co. in operating its cars over these tracks; and the compensation to be paid by the T. M. E. R. & L. Co. to the Chi. & Mil. El. Ry. Co. for the use of the said tracks and other property of the Chi. & Mil. El. Ry. Co. *T. M. E. R. & L. Co. v. Chi. & Mil. El. Ry. Co.* 299, 312–321.

Joint use of tracks—Establishment of—Terms and conditions of joint use.

5. The M. N. R. Co. proposes in the instant case that the T. M. E. R. & L. Co. shall have no right to operate over the M. N. R. Co's tracks on the portion of street in question any car or cars which compete for traffic either within or without the city of Milwaukee with any car or cars operated by the M. N. R. Co. *Held:* Even though the joint use of tracks by competing lines may have an adverse effect upon the earnings of the company owning the tracks, the Commission must reject any proposal which would restrict such full and free use of the tracks as the needs of the community may demand. The Commission will, however, require such competition only in cases of urgent necessity. In the present case it appears that the M. N. R. Co. in accepting the franchise under which it uses the streets bound itself, when required by the city, to permit the operation over its tracks of such competing cars as those operated by the T. M. E. R. & L. Co. *T. M. E. R. & L. Co. v. M. N. R. Co.* 268, 285–286.

6. Each of the two companies involved in the instant case claims the privilege of supplying power for the operation of cars over the portion of track to be subject to joint use. If the two companies could come to an agreement as between themselves to string two sets of trolley wires over this portion of track the Commission would probably approve such an arrangement, but in view of the friction and suspicion likely to arise from the creation of an opportunity for the theft of power by one company from the other the Commission is not inclined to order the installation of two sets of trolley wires. Ordinarily it would seem that the company owning the tracks should be permitted to furnish the power, if it desires to do so and is in a position to give adequate power service. The Commission believes that it is within its authority to decide which company shall supply the power used over the portion of track in joint operation and it is accordingly ordered that the T. M. E. R. & L. Co. furnish this power. *T. M. E. R. & L. Co. v. Chi. & Mil. El. Ry. Co.* 299, 309, 316.

7. The Commission is inclined to the view that in cases such as the present, where joint use of tracks is proposed, the company owning the tracks should be permitted to furnish the power if it so desires, provided it is in a position to furnish a power that will be reliable in character and adequate in quantity and quality. But when conditions are such that the owning company cannot furnish a satisfactory power, other provision must be made. It would be ridiculous for the Commission to order the joint use of a piece of track and at the same time permit the use of a power supply that was manifestly inadequate for the operation of cars thereover. Furthermore, the company that furnishes the power must be in a position to meet adequately the requirements

of the traffic under both normal and emergency conditions. *T. M. E. R. & L. Co. v. Chi. & Mil. El. Ry. Co.* 299, 309, 310.

Joint use of tracks—Establishment of—Terms and conditions of joint use—Basis of compensation.

8. In the opinion of this Commission a proper basis for such compensation involves consideration of (a) the cost of maintaining the property in good condition and repair, (b) net cost of renewals, replacements, and reconstruction necessary to keep the property at all times in good condition and repair, (c) the taxes paid upon the property and (d) a reasonable rate of return upon the investment in the property. In this case it seems reasonable that the above items should be apportioned between the companies according to the use made by them of the track. Inasmuch as some of the above items of cost vary for different railways, for different parts of any given railway and even from month to month for the same piece of track, it would seem preferable that, insofar as possible, the actual costs on the particular piece of property in question should be determined, rather than average costs for an entire system. Certain of the above items are affected by the amount of traffic over the tracks. It is plain, therefore, that no definite rate of compensation per car-mile can be fixed that will be equitable to both parties under all conditions of traffic. To be equitable, the rate per car-mile would have to vary constantly with the traffic. *T. M. E. R. & L. Co. v. M. N. R. Co.* 268, 280–281.

9. Because of the practicable impossibility of determining the weight of passengers carried and the danger of doing one company or the other an injustice if the weight of merchandise and express matter is included in the ton mileage while the weight of passengers is excluded, the weight of the load may well be disregarded for the sake of simplicity in the determination of ton mileage, whether the load be passengers or merchandise. This method of calculating ton mileage may not result in exactly the same proportioning of expenses as would be made if the load were included but it is believed that the results will be substantially the same. The contention that the use of this method will result in unjust discrimination where one company operates heavy interurban cars, which are, as a rule, but moderately loaded, while the other company operates light city cars, which are often crowded with passengers, is supported by no data offered in the present case, and it is believed that even if the traffic of the two companies is of a different nature the omission of the weight of passengers will not affect to any great extent the justice of the division of expenses proposed by the Commission. *T. M. E. R. & L. Co. v. M. N. R. Co.* 268, 283–284.

10. The proposal made by the M. N. R. Co., that the monthly compensation to be paid by it to the T. M. E. R. & L. Co. for the use of electric energy, which it seems advisable to have the T. M. E. R. & L. Co. supply for the M. N. R. Co. over the portion of track to be subject to joint use, be equal only to the output cost of the M. N. R. Co. seems fair to both companies. In view, however, of the difficulties which would probably arise if the amount of the charge were left to the two companies to determine, the fact that the amounts involved are too small to justify an investigation by the Commission and the further fact that the rate of 1 ct. per kw-hr. offered by the T. M. E. R. & L. Co. is admittedly not excessive, it seems best to adopt the rate last mentioned. *T. M. E. R. & L. Co. v. M. N. R. Co.* 268, 284–285.

11. The use of the car-miles as a unit would not give so equitable a division of the costs as the ton-mile, where two companies are involved, since the types of cars used by the different companies may differ considerably in weight and capacity. If the car-mile is taken as the unit, each company would bear an equal portion of the costs, which is manifestly unfair since the company using the light cars has not had as

much use of the track as the other company. The ton-mile as a unit would give the better results. *T. M. E. R. & L. Co. v. M. N. R. Co.* 268, 281.

12. Both companies in the instant case consider that a compensation based upon a rate per car-mile for the use of the tracks and overhead system in question would be satisfactory, but the two companies fail to agree upon what that rate shall be. The Commission, however, for reasons set forth in *T. M. E. R. & L. Co. v. M. N. R. Co.* 1913, 13 W. R. C. R. 268, 281, adopts the ton-mileage basis used in that case. *T. M. E. R. & L. Co. v. Chi. & Mil. El. Ry. Co.* 299, 307.

Joint use of tracks—Establishment of—Terms and conditions of joint use—Liability for accidents.

13. Although it is true that the joint use of tracks in the present case will mean increased risk to both companies and that the earnings of the M. N. R. Co. from such joint use for a period of many years might be wiped out by the losses arising from a single accident, this is not a sufficient reason for placing all of the burden of responsibility for accidents upon the T. M. E. R. & L. Co. Public policy would appear to forbid the relieving of a railway company of its natural responsibilities and it is also believed that the safety of operation will be promoted if each company is obliged to assume a liability in proportion to its responsibility for any accidents that may occur. Moreover, the joint use of the tracks is being forced, in a measure, upon both companies for the benefit of the public whose streets they occupy and there is no reason for discriminating between the two companies in the matter of liability for personal injuries. *T. M. E. R. & L. Co. v. M. N. R. Co.* 268, 277.

14. With respect to the matter of liability for accidents the position taken by the Commission in *T. M. E. R. & L. Co. v. M. N. R. Co.* 1913, 13 W. R. C. R. 268, 277, is followed. *T. M. E. R. & L. Co. v. Chi. & Mil. El. Ry. Co.* 299, 306–307.

Joint use of tracks—Establishment of—Terms and conditions of joint use—Prevention of accidents.

15. That the joint use of tracks will increase the possibility of accident is obvious. There is no evidence in the instant case, however, to show that the joint use of tracks will increase the possibility of accident to abnormal proportions. It is the expectation of the Commission, moreover, that the standards maintained by the two companies with respect to the upkeep of rolling stock and the discipline of employes will be such as to reduce the number of accidents under joint use of tracks to a minimum. *T. M. E. R. & L. Co. v. Chi. & Mil. El. Ry. Co.* 299–305.

Joint use of tracks—Establishment of—When permissible.

16. Under the law (ch. 62, laws of 1913) the proposed joint use is permissible unless such use will result in irreparable injury to the owner or in substantial detriment to the service, always provided, of course, that such use is required by public convenience and necessity. It appears clear that in the instant case there will be neither irreparable injury to the owner nor substantial detriment to the service by the proposed joint use. On the contrary, there seems to be a probability that the respondent will obtain a financial advantage from the arrangement rather than an injury. For these reasons and under these circumstances, this Commission can not allow the claim of injury to stand in the way of the proposed joint use of these tracks. *T. M. E. R. & L. Co. v. Chi. & Mil. El. Ry. Co.* 299, 306.

Requirements as to service and facilities—Adequacy of service.

17. The petitioner alleges that the limitation of stops made by the cars of the respondent companies within the city of Waukesha results in inadequate street railway service and in danger to public travel at street intersections. In the past the cars have stopped at all street intersections to take on and let off passengers, but under a new schedule which, the respondents allege, was adopted for the purpose of improving the service, the cars stop only at certain designated points. The petitioner alleges that the franchise under which the respondents use the streets in Waukesha requires them to furnish street railway service as distinguished from interurban service and that they have no right to operate interurban cars through the city. *Held:* The right of respondents to operate interurban cars upon the streets of Waukesha is a judicial question and not within the power of the Commission to determine, but so long as the respondents render such service it is subject to the supervision and regulation of the Commission. In view of both of the requirements of the interurban service and the franchise obligations which the respondents may have assumed with respect to the rendering of street railway service, it is deemed advisable to tentatively increase the number of stops made within the city of Waukesha. The respondents are therefore ordered to stop their cars in the city of Waukesha to receive and discharge passengers at points designated by the Commission. *City of Waukesha v. T. M. E. R. & L. Co. et al.* 89, 99.

18. The Commission, on its own motion, investigated the service on the T. M. E. R. & L. Co.'s system of street railways in the city of Milwaukee. The matter of the formal complaint made by the Washington Park Advancement Association and the Northwest Neighborhood Civic Club with respect to the service on the National ave.-Walnut st. line in Milwaukee is included in the present proceeding. The Commission investigated traffic conditions on the company's lines during the summer of 1912 and the winter, spring and summer of 1913. Traffic data were also submitted by the company and by the city of Milwaukee. The company contends that the revenue yielded by the rates provided for the company by the order of the Commission in the *Fare Case (City of Milwaukee v. T. M. E. R. & L. Co.* 1912, 10 W. R. C. R. 1, 369), is not sufficient to meet reasonable expenses under present conditions without the making of any further improvements in service. A valuation was computed and the revenues and expenses were investigated, data presented in the *Fare Case* being used with new data as the basis for further analyses. Necessary apportionments are made between T. M. E. R. & L. Co. and the M. L. H. & T. Co. In the study of expense for maintenance of equipment consideration is given to comparative data on the unit costs of street railway companies in other large cities. Under present conditions it is impracticable during rush periods to supply all passengers with seats. To enforce such a standard of service with the present track facilities would result in unreasonable congestion in traffic in the down-town districts and would also necessitate vast expenditures for additional equipment, facilities and labor which would have to be borne in some manner by the public. Moreover it is doubtful, in view of the importance of speed when people are going to and from their work, if patrons of the street cars would be willing to wait for cars with vacant seats when cars with comfortable standing room available were passing. *Held:* To render reasonably adequate service in Milwaukee the T. M. E. R. & L. Co. must operate a sufficient number of cars to supply: (1) during any half hour in the non-rush period an average of at least 133 seats per 100 passengers demanding transportation in a given direction at any point on the line; and (2) during the maximum half hour in rush periods a similar average of at least 67 seats per 100 passengers, making provision for a gradual transition

between the two standards. The service rendered by the company is inadequate in that it has failed to comply with the standards of service set forth above. Investigation of the costs of rendering service conforming to these standards shows that the costs can reasonably be met from the revenue yielded by the rates ordered by the Commission in the *Fare Case*. The company is therefore ordered to operate its lines in Milwaukee in accordance with the standards of service set forth, subject to certain modifications, and with other regulations prescribed by the Commission. Because of the fact that the traffic on some lines is so light at times that if only 133 seats per 100 passengers were supplied there would be an unreasonably great time interval between cars, minimum headway requirements are made. The standards of service prescribed are also subject to the following exceptions: (a) No service is to be required on the 12th st.-Viaduct line during the non-rush hours; and (b) suburban service within the city limits is not to be subject to the standards stated unless the cars used are operated as an integral part of the city schedule. During rush hours the company is to station traffic officers with authority over trainmen at important transfer intersections and at other points where these officers can materially assist in the movement of traffic and the maintenance of schedules. The traffic officers, among other things, are, so far as practicable, to limit the loads on individual cars to the maximum comfortable carrying capacity of the cars. The company is also to station fare collectors at important loading points to admit passengers through the front doors of prepayment cars and otherwise facilitate the movement of cars and assist in the handling of passengers. Lists of traffic officers and fare collectors with their stations are to be submitted to the Commission for approval. The company is further ordered: to submit plans for all new passenger cars and for the remodeling of all old passenger cars to the Commission for approval with respect to details affecting the adequacy of service; to remove the dividing rails on the platforms of the rebuilt cars, and the chains attached to the dividing rails on the rebuilt and 600 type cars; and to display separate route and destination signs on the front and a route sign on the side of each car in service, any proposed changes in the type and manner of handling of signs to be submitted to the Commission for approval. *In re Service of T. M. E. R. & L. Co. in Milwaukee*, 178, 179, 180.

Requirements as to service and facilities—Adequacy of service—Fare collectors.

See ante, 18.

Requirements as to service and facilities—Adequacy of service—Limitation of stops.

See ante, 17.

Requirements as to service and facilities—Adequacy of service—Minimum headway.

19. In determining standards for adequate street railway service it is necessary to specify what shall be the minimum headway if the public is to be properly accommodated at periods of the day when travel is light. *In re Service of T. M. E. R. & L. Co. in Milwaukee*, 178, 202.

Requirements as to service and facilities—Adequacy of service—Necessity for flexible schedule.

See post, 20.

Requirements as to service and facilities—Adequacy of service—Schedule making a managerial detail for the street railway company.

20. In its brief and in its oral argument, the city of Milwaukee in the instant case has taken the position that, to be effective, the order of the Commission should specify definite schedules for each city line in addition to fixing standards of service for rush and non-rush periods, for the purpose of accurately checking the service. The company, on the other hand, has laid great stress upon the necessity of a flexible schedule, and has taken the position that schedule-making is a managerial detail which should be left for the company to control. The company's position in this regard we believe to be correct. Conditions of traffic vary from year to year and with the seasons of the year, and to meet such changes schedules must be flexible. Should the Commission specify the headway on each line, it would be necessary for it to make a constant study of changes in the volume of traffic and modify its orders from time to time. In short, the Commission would, by so doing, place itself at the service of the company, filling a need which should rather be met by an efficient traffic study department. The order has been carefully drawn, and we believe that it will be possible for the city or individuals to prove a violation thereof by making a count for the same period on three successive days at any point where the standards are apparently not being fully complied with. *In re Service of T. M. E. R. & L. Co. in Milwaukee*, 178, 211–212.

Requirements as to service and facilities—Adequacy of service—Seating capacity of cars during non-rush periods.

21. A public service corporation which undertakes to supply street railway service should furnish sufficient equipment to afford seats for all passengers who desire such service, unless there exist operating or financial conditions which make it impossible or impracticable to do so. The evidence offered in the present proceeding discloses no conditions which warrant a deviation from this standard except during the morning, noon and evening rush hours of the day and at times when conditions are abnormal. It is held that to render reasonably adequate service in Milwaukee the T. M. E. R. & L. Co. must, among other things, operate a sufficient number of cars to supply during any half hour in the non-rush period an average of at least 133 seats per 100 passengers demanding transportation in a given direction at any point on the line. *In re Service T. M. E. R. & L. Co. in Milwaukee*, 178,, 209.

Requirements as to service and facilities—Adequacy of service—Seating capacity of cars during rush periods.

22. Under present conditions it is impracticable during rush periods to supply all passengers with seats. To enforce such a standard of service with the present track facilities would result in unreasonable congestion in traffic in the down-town districts and would also necessitate vast expenditures for additional equipment, facilities and labor which would have to be borne in some manner by the public. Moreover, it is doubtful, in view of the importance of speed when people are going to and from their work, if patrons of the street cars would be willing to wait for cars with vacant seats when cars with comfortable standing room available were passing. It is held in the instant case that to render reasonably adequate service in Milwaukee the T. M. E. R. & L. Co. must, among other things, operate a sufficient number of cars to supply during the maximum half hour in rush periods an average of at least 67 seats per 100 passengers demanding transportation, making provision for a gradual transition between this standard and

the standard for non-rush period service. *In re Service of T. M. E. R. & L. Co. in Milwaukee*, 178, 203–204.

Requirements as to service and facilities—Signs on cars.
See ante, 18.

Requirements as to service and facilities—Standards of service.
23. The traffic data in the instant case show clearly that there is a wide variation in the loading of cars during the non-rush hours and whatever the cause of this condition may be, while it exists it must be given consideration in determining the amount of service necessary. *In re Service of T. M. E. R. & L. Co. in Milwaukee*, 178, 201.

Requirements as to service and facilities—Traffic officers.
See ante, 18.

Requirements as to service and facilities—Type of cars.
24. The company is ordered in the instant case to submit plans for all new passenger cars and for the remodeling of all old passenger cars to the Commission for approval with respect to details affecting the adequacy of service and to remove the dividing rails on the platforms of the rebuilt and 600 type cars. *In re Service of T. M. E. R. & L. Co. in Milwaukee*, 178, 248.

RATES.

See RATES—STREET RAILWAYS.

VALUATION.

See VALUATION.

SUPERINTENDENCE.

Cost of superintendence as element in the valuation of public utilities, *see* VALUATION, 8.

SWITCH CONNECTIONS.

ESTABLISHMENT OF.

Spur track, statutory requirements relating to.
1. The contention of the respondent in the instant case that having once provided the petitioner with track facilities adequate to the then existing needs of the plant the respondent cannot be required either to change the existing tracks or to install additional tracks to meet new requirements of the industry, is not tenable for such a construction of the statute would defeat the purpose of the statute. *Madison G. & El. Co. v. C. & N. W. R. Co.* 409, 413–414.

2. In deciding whether a proposed spur track is practically indispensable to the successful operation of a public utility the mere physical possibility of operating the plant without the use of the spur cannot be taken as conclusive of the question, but consideration must be given to the needs of the plant when operated with the efficient and economical equipment which it is the duty of the public utility under the law (*Berend v. Wis. Tel. Co.* 1909, 4 W. R. C. R. 155) to install and maintain. *Madison G. & El. Co. v. C. & N. W. R. Co.* 409, 415–416.

3. The Commission has the power under sec. 1797—11m of the statutes to order the construction of a spur track to the warehouse involved in the instant case if the location of the warehouse is within three miles

of the company's line, if the connection is necessary for the warehouse or industry in question and if it is not unreasonably dangerous to public travel. *Doyle v. M. St. P. & S. S. M. R. Co.* 620, 622.

RIGHT OF SHIPPER TO SWITCH CONNECTIONS.

Industrial track, petition for construction of, dismissed by Commission.

4. The petitioner asks that the respondent be required to restore the industrial track formerly maintained by it to the petitioner's warehouse at Stockton. The respondent alleges that it removed the track because the business done over it did not justify its maintenance and because it is impracticable to maintain the track on account of the elevation of the main line track at the point of connection. The track was originally constructed for a warehouse other than that of the petitioner and before the passage of the Railroad Commission Law. *Held:* Inasmuch as the track in question was installed before the passage of the Railroad Commission Law and was not paid for in full by the owners of the industry to which it was originally built, nor in part by the petitioner or her predecessors, the removal of the track is not subject to the conditions imposed by sec. 1802 of the statutes and the Commission is without jurisdiction to order the restoration of the track as prayed for. The petition is therefore dismissed. *Doyle v. M. St. P. & S. S. M. R. Co.* 620, 622.

Spur track, construction of, ordered by Commission.

5. Petition is made for an order requiring the respondent to install a spur track for the use of the petitioner under the terms of sec. 1797—11m of the statutes. The petitioner alleges that the spur track desired is practically indispensable to the successful operation of its plant as improved by the installation of a mono-rail system for the handling of coal; that neither the construction nor the operation of the spur track will be unusually unsafe or dangerous or unreasonably harmful to public interest; that an existing spur track which is now useful only to the petitioner and which will cease to be useful even to the petitioner upon the completion of the petitioner's new coal handling system, can be changed to meet the requirements of the petitioner; and that the respondent refuses to cause the change to be made unless the petitioner signs a contract containing a provision imposing all liability growing out of the construction, maintenance or operation of the track upon the petitioner, except liability for personal injuries. *Held:* The spur track requested by the petitioner is practically indispensable to the successful operation of the petitioner's new plant for the manufacture of coal gas and it meets all other statute requirements in that it is less than three miles in length and will not in its construction and operation be unusually unsafe and dangerous nor unreasonably harmful to the public interest. It is ordered: (1) that the respondent construct an adequate and suitable spur track as prayed for by the petitioner: and (2) that the petitioner deposit with the respondent the sum of $588, the estimated cost of the spur track, and give the respondent a bond to be approved by the Commission, securing the respondent against loss on account of any expense incurred beyond the amount of the deposit. *Madison G. & El. Co. v. C. & N. W. R. Co.* 409, 417.

Spur track, construction of—Prior construction of a spur track for an industry not a bar to the requirement of additional or improved track facilities adapted to meet new needs of the industry.

6. The contention of the respondent that having once provided the petitioner with track facilities adequate to the then existing needs of

the plant the respondent cannot be required either to change the existing tracks or to install additional tracks to meet new requirements of the industry, is not tenable. *Madison G. & El. Co. v. C. & N. W. R. Co.* 409, 413–414.

Spur track, construction of—Rights to "spot" freight cars on a public street.

7. The problem of what constitutes the proper use of a street for railroad purposes under permission granted by a city depends for solution upon a number of facts and circumstances. What may be an unreasonable use of a street by a railway company in one locality may be a reasonable use in another locality. In the instant case the street involved, though not legally vacated, has been occupied almost entirely by the respondent under municipal grants for public teaming and industrial tracks and the street has never been required, and in all probability will never be required, for public use. The objection urged by the respondent on the ground that the track desired by the petitioner would have to be constructed and operated, and that cars would have to be spotted for unloading in a public street is therefore not sufficient to justify a refusal to grant the relief asked for by the petitioner. *Madison G. & El. Co. v. C. & N. W. R. Co.* 409, 414–415.

Spur track, construction of—Statutory requirements.

8. In deciding whether a proposed spur track is practically indispensable to the successful operation of a public utility, the mere physical possibility of operating the plant without the use of the spur cannot be taken as conclusive of the question, but consideration must be given to the needs of the plant when operated with the efficient and economical equipment which it is the duty of the public utility under the law (*Berend v. Wis. Tel. Co.* 1909, 4 W. R. C. R. 155) to install and maintain. *Madison G. & El. Co. v. C. & N. W. R. Co.* 409, 415–416.

Spur track, petition for construction of, dismissed by Commission.

9. The petitioner asks that the respondent be required to restore a spur track which it formerly maintained at Kingston, Oconto county, and alleges that if the spur track were replaced potatoes from 75 to 100 acres of land and some logs and pulp wood would be shipped over it. The spur was removed in 1912 because, the respondent alleges, the business originating at Kingston was insufficient to warrant the maintenance of the spur and the physical conditions were such as to make the presence of a switch a menace to safe operation. Facilities for shipping carload freight are now provided at Mountain, which is 2.8 miles by rail from Kingston. *Held:* The traffic at Kingston is not sufficient to warrant an order granting the prayer of the petitioner. The petition is therefore dismissed. *Knutsen v. C. & N. W. R. Co.* 615, 616.

SWITCHING CHARGES.

Fond du Lac, between Fond du Lac and No. Fond du Lac, on the M. St. P. & S. S. M. Ry., *see* RATES—RAILWAY, 42.

On building materials, substitution of switching charge for distance tariff rate, Milwaukee on C. M. & St. P. Ry., *see* DISCRIMINATION, 7; RATES—RAILWAY, 21.

On coke, absorption of switching charges, *see* RATES—RAILWAY, 23.

On grain, absorption of switching charges, *see* RATES—RAILWAY, 29.

On gravel and crushed stone, absorption of switching charges, *see* RATES—RAILWAY, 31.

SWITCHING RATES.

See RATES—TELEPHONE.

TANBARK.

TAXES.

TELEPHONE FACILITIES IN RAILROAD STATIONS.

See RAILROADS.

TELEPHONE RATES.

See RATES—TELEPHONE.

TELEPHONE UTILITIES.

ACCOUNTING.

See ACCOUNTING.

ESTABLISHMENT, CONSTRUCTION AND MAINTENANCE.

Extension of lines.

1. The Commission, on its own motion, investigated the refusal of the Larsen Tel. Co. to extend its lines to certain applicants for its service unless such applicants would buy stock in the company or build the

necessary extension and turn it over to the company. The costs of making the extension and rendering the service requested were ascertained. *Held:* The telephone company may reasonably be expected to put in the extension if nine new subscribers can be obtained or if any number less than nine desiring service will advance to the company the amount by which the cost of the extension exceeds the amount upon which the revenues from the business acquired will yield a reasonable return, such advances to be repaid if new subscribers are obtained within a reasonable time. It is ordered: (1) that the telephone company shall extend its lines and furnish service at regular rates to the parties residing in the neighborhood of the original applicant in this case, when nine or more of such parties shall agree to take service; and (2) that in case less than nine of the parties concerned agree to take service the company shall, upon demand of a less number, extend its lines and furnish service to those desiring it upon payment by the latter of $45 for each party by which the number subscribers for service is less than nine, such advances to be repaid without interest for each new subscriber added within three years, up to the number for whom the advances were made by the original subscribers. *In re Extension Larsen Tel. Co.* 363, 364–365.

Extension of lines—Advance of cost by subscribers.
See ante, 1.

Extension of lines—Authority for extension derived from the state and not from the municipality.

2. The contention of the respondent that it is entitled to enter the village and compete with the petitioner by virtue of a franchise granted by the village is untenable, for the authority to operate a telephone utility is, under the statutes, derived from the state and not from any local branch of the government. (*State ex rel. Smythe v. Milwaukee Ind. Tel. Co.* 133 Wis. 588.) *Tri-State Tel. & Teleg. Co. v. St. Croix F. M. Tel. Co.* 437, 439.

Extension of lines—Authority from Commission necessary.

3. Under sec. 1797m—74 of the statutes it is made unlawful for any telephone company to extend its service into a territory already occupied by another company without bringing the matter before, and obtaining authority of, the Commission. *Tri-State Tel. & Teleg. Co. v. St. Croix F. M. Tel. Co.* 437, 439.

Extension of lines—Discrimination between stockholders and nonstockholders prohibited.

4. The fact that the persons to whom the respondent desires to extend its service are shareholders, is immaterial, for service must be rendered to shareholders upon the same terms and conditions as to other subscribers. *Tri-State Tel. & Teleg. Co. v. St. Croix F. M. Tel. Co.* 437, 439.

Extension of lines—Duplication of equipment of established utility—When permitted.

5. In previous decisions the Commission has held that it is the intent of ch. 610 of the laws of 1913 that no duplication of lines such as that proposed in the instant case should be allowed, unless it is clearly shown that the company already rendering service in the district in question is unable to render adequate service at reasonable rates. (*In re Proposed Extension Clinton Tel. Co.* 1913, 12 W. R. C. R. 744, 746, and *In re Proposed Extension Ettrick Tel. Co.* 1913, 12 W. R.

C. R. 744.) It is therefore necessary in the instant case to determine whether the existing service is adequate, and if not, whether it is possible to render it adequate by establishing physical connection or by other means. *Eagle Tel. Co. v. State Long Distance Tel. Co. et al.* 597, 601.

Extension of lines—Duplication of equipment of established utility not ordinarily the remedy for excessive rates or inadequate service.

6. If the rates charged by a telephone utility are excessive or if the service is inadequate the remedy is to make complaint to the Commission in the regular way rather than to invite a duplication of telephone systems. *In re Proposed Extension Fond du Lac Rural Tel. Co.* 676, 678.

Extension of lines—Extension contrary to law—St. Croix Farmers' Mut. Tel. Co. in village of Grantsburg, Burnett county.

7. The petitioner alleges the respondent on Aug. 16, 1913, commenced to build telephone lines into the village of Grantsburg for the purpose of competing with the petitioner for local business, contrary to the provisions of ch. 610, laws of 1913. The respondent admits that it connected the telephone of one of its shareholders in the village of Grantsburg with its lines but contends that this act was not in violation of ch. 610, laws of 1913. The telephone involved has since been disconnected. *Held:* The respondent's action in extending its service to an invidual within the limits of the village without previously obtaining authority from the Commission, as required by sec. 1797m—74 of the statutes, was illegal. Inasmuch, however, as the telephone installed in the village by the respondent has been disconnected, there is no present violation of the statute. The instant complaint is therefore dismissed, but should any extensions be made in the future without the procedure proper under the statutes it will become the duty of the Commission to report such violations to the attorney-general for prosecution. *Tri-State Tel. & Teleg. Co. v. St. Croix F. M. Tel. Co.* 437, 439.

Extension of lines—Legality of extension in municipality in which there is already in operation a public utility engaged in similar service.

8. The Bergen Telephone Company has maintained direct connection with three private telephones installed within the village of Clinton which is the district served by the Clinton Telephone Company. The facts in this matter were presented by the Commission to the attorney-general and the latter rendered an opinion under date of February 27, 1913, to the effect that the Bergen Telephone Company was maintaining the service mentioned in violation of sec. 1797m—74 of the Public Utilities Law and that the company was therefore subject to the penalty imposed by section 1797m—95 of the same law. The fact that the number of subscribers given direct service is small and the further fact that some or all of these subscribers have furnished their own equipment are immaterial. The practice in question is clearly illegal and must be discontinued. No order of the Commission is necessary in the matter. *In re Physical Conn. Betw. Clinton & Bergen Tel. Co.* 249, 257–258.

Extension of lines—Proposed extension permitted by law unless Commission finds that public convenience and necessity do not require the extension.

9. The only action required of this Commission by the law in cases involving the duplication of telephone lines within the same territory by the extension of new lines, is a finding that public convenience and necessity do not require the proposed extension. Where the Commission does not make such a finding, the statute itself operates to authorize the extension. *In re Proposed Extension Owen Tel. Co.* 630, 631.

Extension of lines—Public convenience and necessity of extensions in particular cases—Clinton Tel. Co. in town of Clinton, Rock county.

10. The Clinton Tel. Co. filed notice with the Commission, pursuant to ch. 610 of the laws of 1913, of its intention to extend its telephone line a distance of 80 rods in the town of Clinton, Rock county, to reach a former subscriber at his new place of residence. The Bergen Tel. Co., which operates a line running past the house in question, objects to the proposed extension. *Held:* Where adequate service at reasonable rates can be obtained from the company whose lines already occupy the field, encroachments of the kind contemplated by the applicant should not be permitted. The Commission finds that public convenience and necessity do not require the construction of the extension proposed by the applicant. *In re Proposed Extension Clinton Tel. Co's Lines*, 166, 168.

Extension of lines—Public convenience and necessity of extension in particular cases—Fond du Lac Rural Tel. Co. in town of Taychedah, Fond du Lac county.

11. The Fond du Lac Rural Tel. Co. filed notice with the Commission of its intention to extend its telephone line in the town of Taycheedah, Fond du Lac county. The Eastern Wisconsin Tel. Co. objects to the proposed extension. The applicant desires to make the extension for the purpose of serving two residences. The occupant of one of these has connection with the lines of the objector over a line owned by himself and is in a position to extend his service to the occupant of the other residence with much less additional construction than would result if either the applicant or the objector were to extend its lines to reach him. *Held:* Public convenience and necessity do not require the extension proposed. If the charges exacted for service rendered with existing connections are excessive or if the service is inadequate the proper remedy is to make complaint in the regular way rather than to invite a duplication of telephone systems. *In re Proposed Extension Fond du Lac Rural Tel. Co.* 676, 678.

Extension of lines—Public convenience and necessity of extensions in particular cases—Owen Tel. Co. in towns of Hoard and Green Grove, Clark county.

12. The Owen Tel. Co. filed notice with the Commission of its intention to extend its telephone lines in the towns of Hoard and Green Grove in Clark county. The Curtiss & Withee Tel. Co. and the Abbotsford Lt. & Tel. Co. object to the proposed extensions. The unincorporated village of Curtiss, to which the applicant desires to make the extension proposed for the town of Hoard, is now served by both of the objecting companies. The region which the applicant desires to serve by the extension which it proposes to make in the town of Green Grove is without telephone service. *Held:* 1. Public convenience and neces-

sity do not require the proposed extension of the applicant's lines in the town of Hoard. 2. Since the proposed extension in the town of Green Grove cannot be regarded as unwarranted by public convenience and necessity, the applicant may proceed with the construction without any order from the Commission. 3. The contention of the objecting companies that the territory which the applicant desires to serve in the town of Green Grove is naturally tributary to Colby, Abbotsford and Curtiss rather than to Owen is not sufficient to compel a finding that the service of the applicant is not required by public convenience and necessity, for the territory in question is now without telephone service and several residents have already signified their desire for the applicant's service. *In re Proposed Extension Owen Tel. Co.* 630, 632.

Extension of lines—Public convenience and necessity of extensions in particular cases—State Long Distance Tel. Co. in vicinity of Lauderdale Lake, Walworth county.

13. In the instant case the respondent State Long Distance Tel. Co. denies that the physical connection desired by the petitioner is required by public convenience and necessity, alleges that public convenience and necessity will be best served by allowing the said respondent to extend its lines so that telephone subscribers in the vicinity of Lauderdale Lake may be directly connected with its exchange at Elkhorn and asks that it be permitted to make such extensions of its lines. The physical connection formerly maintained was severed on July 1, 1913, the State Long Distance Tel. Co. alleging that the petitioner had violated the terms of the contract for physical connection by connecting the subscribers served under the contract with the petitioner's La Grange exchange. Since July 1, 1913, these subscribers have been obliged to reach Elkhorn indirectly through the La Grange central, which is merely a rural exchange, and over a toll line owned in part by the Eagle Tel. Co. and in part by the Wis. Tel. Co., and complaint is made of the service rendered. The subscribers at Lauderdale Lake, who are for the most part summer residents from Chicago, use their telephones chiefly for communication with Elkhorn and Chicago, and receive slight benefit, if any, from their connection with La Grange. Messages for Chicago sent through the La Grange central go by a less direct route than those sent by way of Elkhorn. *Held:* The subscribers of the petitioner at Lauderdale Lake cannot be adequately served by the petitioner through its La Grance exchange, either under the existing arrangements or with a physical connection between the two companies, and it is regarded as desirable, in the interest of good telephone service, that the lines of the State Long Distance Tel. Co. be extended for a distance of about one and one-half miles north of its present terminus at the Sterlingworth Hotel, connecting with such subscribers as desire the direct service of the Elkhorn exchange. *Eagle Tel. Co. v. State Long Distance Tel. Co. et al.* 597, 602.

OPERATION.

Physical connection—Establishment of—Statutory requirements.

14. Where physical connection of lines is enforced under the statute, it is contemplated that the companies shall agree upon the apportionment of the joint tolls, and it is only in case of failure of agreement that the Commission has authority to make the apportionment. *Ettrick Tel. Co. v. La Crosse Tel. Co.* 25, 27.

15. No telephone company can insist that a connecting telephone company furnish its toll line facilities free of charge, for that would be clearly taking property without compensation and would meet the

condemnation of constitutional provisions. In compelling physical connection between two telephone systems, it must be remembered that the statute provides for reasonable terms and conditions. It could not legally provide that one company should give another the use of its toll lines without compensation. *Ettrick Tel. Co. v. La Crosse Tel. Co.* 25, 28.

Physical connection—Establishment of—Terms and conditions of joint use.

See also RATES—TELEPHONE, 4, 6.

16. On motion of the Commission a rehearing was held of certain matters involved in an order issued October 19, 1912 (10 W. R. C. R. 598) directing the Clinton Tel. Co. and the Bergen Tel. Co. to establish physical connection between their systems and prescribing a 2 ct. toll charge for completed calls between the two systems. The Bergen Tel. Co. is opposed to the exaction of a toll for service between the two systems. The Clinton Tel. Co. favors the retention of the 2 ct. toll ordered by the Commission. It appears that the exaction of this toll has reduced the number of messages transmitted between the two exchanges, largely, it is probable, through the elimination of unnecessary conversation. *Held:* The effect of the 2 ct. toll is in the interests of good service and there are no valid reasons for abandoning the charge. The terms of the former order with respect to the 2 ct. toll and the division of the revenue accruing from it will therefore remain unchanged. *In re Physical Conn. Betw. Clinton & Bergen Tel. Cos.* 249, 252–253.

Physical connection—Establishment of, in particular cases.

17. The petitioner asks for an order requiring the respondent to restore the physical connection and service formerly maintained between the two companies in the village of Owen. The connection was severed by the respondent upon the refusal of the petitioner to accede to new terms which the respondent sought to impose for its services to the petitioner. The respondent is ordered to restore the connection between its lines and the line or lines of the petitioner within ten days of date. Service is to be furnished upon the terms which prevailed prior to the disconnection of the lines until such time as a supplementary order, finally fixing terms for connection, is issued. *Curtis & Withee Tel. Co. v. Owen Tel. Co.* 538, 539.

18. The petitioner alleges that the physical connection maintained prior to July 1, 1913, between its telephone system in the vicinity of Lauderdale Lake and the Elkhorn exchange of the State Long Distance Tel. Co. is required by public convenience and necessity and asks that the Commission require physical connection to be restored and prescribe the conditions under which such connection shall be made. Both the petitioner and the State Long Distance Tel. Co. are sub-licensees of the Wis. Tel. Co., with which they have connecting agreements, and the Wis. Tel. Co. is therefore made a party to the present proceeding. The respondent State Long Distance Tel. Co. denies that the physical connection desired by the petitioner is required by public convenience and necessity, alleges that public convenience and necessity will be best served by allowing the said respondent to extend its lines so that telephone subscribers in the vicinity of Lauderdale Lake may be directly connected with its exchange at Elkhorn and asks that it be permitted to make such extensions of its lines. The said respondent further asks that if a physical connection is ordered, the point of connection be made where the two systems come together midway between the village of East Troy and the city of Elkhorn and that the terms and conditions, the rate of toll and the divi-

sion of the revenue from the tolls be fixed in the order. The physical connection formerly maintained was severed on July 1, 1913, the State Long Distance Tel. Co. alleging that the petitioner had violated the terms of the contract for physical connection by connecting the subscribers served under the contract with the petitioner's La Grange exchange. Since July 1, 1913, these subscribers have been obliged to reach Elkhorn indirectly through the La Grange central, which is merely a rural exchange, and over a toll line owned in part by the Eagle Tel. Co. and in part by the Wis. Tel. Co., and complaint is made of the service rendered. The subscribers at Lauderdale Lake, who are for the most part summer residents from Chicago, use their telephones chiefly for communication with Elkhorn and Chicago, and receive slight benefit, if any, from their connection with La Grange. Messages for Chicago sent through the La Grange central go by a less direct route than those sent by way of Elkhorn. There can be no doubt that the extension which the State Long Distance Tel. Co. proposes to make of its lines would result in more convenient service for the subscribers affected than would the physical connection desired by the petitioner or the toll line routing used at present. It is necessary, however, under ch. 610, laws of 1913, before authorizing the extension to determine whether the existing service is adequate, and if not, whether it can be made adequate by establishing physical connection or by other means. *Held:* The subscribers of the petitioner at Lauderdale Lake cannot be adequately served by the petitioner through its La Grange exchange, either under the existing arrangements or with a physical connection between the two companies, and it is regarded as desirable, in the interest of good telephone service, that the lines of the State Long Distance Tel. Co. be extended for a distance of about one and one-half miles north of its present terminus at the Sterlingworth Hotel, connecting with such subscribers as desire the direct service of the Elkhorn exchange. The petition is dismissed. *Eagle Tel. Co. v. State Long Distance Tel. Co. et al.* 597, 602.

Physical connection—Maintenance of—Terms and conditions of joint use.

19. No telephone company can insist that a connecting telephone company furnish its toll line facilities free of charge, for that would be clearly taking property without compensation and would meet the condemnation of constitutional provisions. In compelling physical connection between two telephone systems, it must be remembered that the statute provides for reasonable terms and conditions. It could not validly provide that one company should give another the use of its toll lines without compensation. *Ettrick Tel. Co. v. La Crosse Tel. Co.* 25, 28.

Requirements as to service and facilities—Adequacy of service.

20. The Commission, on its own motion, investigated the service of the Elderon Tel. Co. after receiving informal complaint that the said service is inadequate. *Held:* The service rendered by the utility is inadequate. Although the Commission is formulating definite standards for telephone service to apply to all telephone companies, the situation in the present case seems to warrant a special order, pending the establishment of such standards, to insure prompt attention to the betterment of the service. The utility is therefore ordered: (1) to make such improvements and additions to its equipment as are necessary to establish adequate service on its lines and thereafter maintain adequate service; and (2) to furnish the Commission, until further notice, before the 10th day of each month, with a statement of the causes and durations of all interruptions in service during the preceding month and the remedies therefor. *In re Invest. Elderon Tel. Co.* 23, 24.

21. In a rehearing on motion of the Commission of certain matters involved in an order issued Oct. 19, 1912 (10 W. R. C. R. 598), directing the Clinton Tel. Co. and the Bergen Tel. Co. to establish physical connection between their systems, the possibility of improving the long distance toll service to points beyond Clinton and Bergen was considered. The Clinton Tel. Co. has refused to receive or transmit long distance messages from or to the Bergen Tel. Co. over the iron line connecting the Clinton and Bergen exchanges. The Clinton Tel. Co. has also refused to receive long distance messages from Bergen over the copper line owned by the Bergen Tel. Co. and connecting with the Clinton to Janesville line of the Badger Teleg. and Tel. Co. As a result the Bergen Tel. Co. is compelled to route its long distance business for Clinton by way of Sharon, which considerably increases the expense and thereby, the Bergen Tel. Co. contends, destroys that company's long distance business with Clinton. The Bergen Tel. Co. therefore asks for authority to use either the iron line or the copper line, as may be most convenient, for the transmission of long distance messages between Bergen and Clinton. The Clinton Tel. Co. objects to the use of the iron line for long distance business and suggests that a Waterloo jack be installed at the Clinton exchange to connect the Bergen Tel. Co's copper line with the Clinton to Janesville line of the Badger Teleg. and Tel. Co. and that the copper line be used for long distance messages between Bergen and Clinton. *Held:* The interests of good service at a reasonable rate demand a change in the methods of handling long distance business at the Bergen and Clinton exchanges. Under ordinary conditions the installation of a Waterloo jack at Clinton would improve the service, but in view of the strained relations which have existed between the Clinton and Bergen companies the Commission does not deem it best to order a change at this time from the direct connection between the copper line of the Bergen Tel. Co. and the Clinton to Janesville line of the Badger Teleg. and Tel. Co. If, however, the Clinton and Bergen companies can come to a reasonable agreement as between themselves and the Badger company for the installation of the Waterloo jack or any other construction which will improve the service, the Commission will welcome the adoption of such an agreement. It is therefore ordered: that the Clinton Tel. Co. and the Bergen Tel. Co. route all long distance messages passing between the two systems directly from Clinton to Bergen or from Bergen to Clinton, as the case may be; that the iron line extending from Bergen to Clinton and owned jointly by the two telephone companies be available for long distance calls between the two exchanges as well as for local business and that the two companies be prepared to render long distance service over this line at a toll charge of 5 cts. in addition to all other toll charges, for all completed calls between the two systems, the revenue so accruing to be divided equally between the two companies. All calls passing over the line which do not originate in the exchange of one company and terminate in the exchange of the other company are to be considered as long distance calls. *In re Physical Conn. Betw. Clinton & Bergen Tel. Cos.* 249, 255, 258.

22. Application is made by the Farmers' Tel. Co. of Beetown for such action by the Commission as may seem just and reasonable with respect to the service rendered over the lines of the Fennimore Mut. Tel. Co. extending from Lancaster to Fennimore. Investigation shows that the service over these lines has been rather unsatisfactory. However, since the necessity of routing calls between Lancaster and Fennimore over loaded lines will be removed by certain parts of the order in this case and inasmuch as there has been no complaint relative to the service in question by the subscribers on these lines, the Commission will not at this time issue an order covering this point. *In re Appl. Farmers' Tel. Co. of Beetown*, 540, 573–574. The practice followed generally

by telephone companies in Wisconsin in refusing to place village subscribers on rural lines is, in most instances, in the interest of good service. The applicant in the instant case has allowed certain farmers who have moved into town to connect with their old rural lines, instead of insisting that they be placed on separate lines, because of objections these subscribers have made to the quality of service furnished over the village lines and the charge of 25 cts. exacted from them in certain exchanges for service after 9 p. m. and because they desire immediate connection with their friends and relatives on the rural lines. This is believed to be detrimental to the service as a whole and the order therefore authorizes the applicant to place such subscribers on separate lines, providing changes are made in the organization and operating methods which are satisfactory to the Commission. *In re Appl. Farmers' Tel. Co. of Beetown*, 540, 575–576.

23. In connection with the application of the Farmers' Tel. Co. of Beetown for authority to increase its rates and for other relief the Commission investigated the service rendered by the company. *Held:* 1. The service rendered by the applicant is below the standard which should be maintained by it. This is due in part to the fact that practically every line serving subscribers directly is of grounded construction and to the further fact that many of the lines have an abnormally high number of subscribers. The poor construction and the present poor condition of the lines appear, in turn, to result largely from the nature of the organization and plan of operation of the company. The alteration of the articles of organization and the by-laws, so as to provide for a general manager giving all of his time to the work, a board of directors to act as a unit in controlling the affairs of the company, and a competent bookkeeper is deemed necessary. 2. The giving of unlimited free service between the applicant's nine exchanges and to most of the connecting companies is unjust to those subscribers who do not avail themselves of this service and it results, moreover, in considerable congestion of the lines. 3. The traffic over the applicant's lines from Lancaster to Fennimore is congested and measures should be taken to reduce the number of calls per day passing over these lines. In view of the fact that the rates in force are not such as to warrant the construction of additional free lines, it is deemed best to place a toll charge on messages going over these lines. In addition it is strongly recommended that the Annaton and Preston Tel. Co., which is at present connected to one of the lines, in question, cut its line which now extends through Preston to Montfort, in two and terminate it at Preston. This it is believed will improve the service over the applicant's line without working a hardship on the Annaton and Preston Co. It is ordered that the applicant be authorized to put into effect the schedule of rates determined by the Commission only at such time as the applicant shall have made such changes in its management, organization, accounting methods and procedure as meet the requirements of the Commission. The applicant is authorized, upon the adoption of this schedule, to place on separate lines all telephones which are located within the city or village limits and are now connected to rural lines running directly into an exchange belonging entirely to the applicant. It is further ordered that the applicant proceed to make "full metallic" its half of the trunk line between Platteville and Lancaster, construction to begin as soon as the Platteville, Rewey and Ellenboro Tel. Co. shall have agreed to build its half of the line, and that upon the completion of the work the present free service shall be suspended and a toll charge of 7 cts. per call substituted, the revenue therefrom to be divided equally between the two companies, unless they shall agree upon some other basis of division. The Annaton and Preston Tel. Co. is given authority, if the toll charges authorized are put in effect for service over the trunk lines between Lancaster and

Fennimore, to connect its Stitzer exchange, as its option, to the grounded trunk line of the applicant running from Lancaster to Fennimore. *In re Appl. Farmers' Tel. Co. of Beetown*, 540, 584–586.

24. The subscribers involved in the instant case are accustomed to the use of a city exchange, and their business is almost wholly with Elkhorn or Chicago. They constitute, as it were, an integral part of Elkhorn, although located geographically at some distance from that city. Adequate service for such a group of patrons must be substantially city service, and to require such service to be rendered by the petitioner through the La Grange exchange would probably place an unreasonable burden upon its rural subscribers for facilities which are not required by their circumstances. *Eagle Tel. Co. v. State Long Distance Tel. Co. et al.* 597, 602.

Requirements as to service and facilities—Adequacy of Service—Duty of utility to provide instruments.

25. It is the duty of telephone companies, under sec. 1797m—90 of the statutes, to own the telephone instruments connected to their lines. *In re Appl. Farmers' Tel. Co. of Beetown*, 540, 580.

Requirements as to service and facilities—Adequacy of service—Number of telephones per line.

26. Although the present proceeding will not permit of an order with respect to the number of telephones on the line involved in the proceeding it would seem to be impossible to render adequate service with 27 telephones on the line and it is recommended that the petitioner construct an extra line connecting with the Spring Green exchange for the purpose of relieving the congestion on its existing rural line. *Arena & Ridgeway Tel. Co. v. Troy & Honey Creek Tel. Co. et al.* 763, 770.

Requirements as to service and facilities—Adequacy of service—Statutory requirements.

27. It is contended by the complainant in the instant case that sec. 1791—a of the statutes imposes upon the company the duty of furnishing connection with the telephone of every person, firm or corporation having a telephone connected with the exchange. *Held:* Sec. 1791—a of the statutes, which makes it the duty of every telephone company to connect the telephone of any subscriber, upon request of that subscriber, with the telephone of any other subscriber, without regard to the character of the messages to be transmitted, provided they are not obscene or profane, is in conflict with the Public Utilities Law, which was enacted subsequently, and must therefore be regarded as having been repealed by the latter which merely provides that "every public utility is required to furnish reasonably adequate service and facilities." Sec. 1797m—3. *In re Use of Silent Numbers by Wis. Tel. Co.* 587, 592.

Requirements as to service and facilities—Adequacy of service—Trouble clearance.

See ante, 20.

Requirements as to service and facilities—Adequacy of service—Use of "silent number" telephones.

28. The Commission, on its own motion, investigated the use of the so-called "silent number phones" by the Wis. Tel. Co. in Milwaukee. The numbers of such telephones are not published in the directory and the usual practice of the company is not to connect other parties with the silent number telephone unless the subscriber having the telephone

directs the operator to make the connection. It is alleged in the informal complaint which led to the present investigation that this practice constitutes an unjust discrimination against subscribers who are thus refused connection. *Held:* The maintenance of silent number service cannot be regarded as an unjust discrimination on the part of the telephone company and there is no other ground upon which the practice can be condemned. It is true that there is an element of discrimination in the action of the individual who has the silent number service in giving his number to his friends or acquaintances and withholding it from the general public, but this is a matter which is left to the discretion of the individual. *In re Use of Silent Numbers by Wis. Tel. Co.* 587, 593.

Requirements as to service and facilities—Withdrawal of service for nonpayment of bills rendered.

29. The Commission, on its own motion, investigated the refusal of the Farmers' Union Tel. Co. to continue its service to William Lemcke at his residence near Middleton, Dane county. Mr. Lemcke made deductions from bills rendered him for service on account of materials and labor furnished by him at the time his telephone was installed. The company refused to accept the sums offered as full payment and partially discontinued its service. *Held:* Though the telephone company was justified in discontinuing service to Mr. Lemcke upon his refusal to pay his bill in full, the company is not justified by the existence of his previous indebtedness in refusing to give him present service if he is ready and willing to give the company reasonable security for the payment of future bills. 1 Wyman on Public Service Corporations, 451. The company is ordered to restore its telephone service to Mr. Lemcke upon the tender by him of payment in advance for a reasonable period at the rates now charged, or the deposit by him with the company of a sufficient sum of money to secure the prompt payment of rentals which may become due in the future for services rendered in accordance with such rules and regulations as the company may publish and file with the Commission. Ten days is deemed a reasonable time for the formulation of such rules and their submission to the Commission. *In re Refusal Farmers' Union Tel. Co. to Furnish Service*, 399, 402.

"Silent number" telephones.

See ante, 28.

30. It is contended that "silent number" telephone service transgresses the fundamental relation existing between the patrons of the telephone exchange. Such an exchange renders a community service, and its value depends upon the number and coöperation of its patrons. Also the efficiency of the service depends as much upon the users of the telephones as upon the company. Under the circumstances it is claimed that a special service which enables the subscribers to obtain connection with the telephones of all his co-subscribers, and to deny his co-subscribers connection with his telephone is not consistent either with the public duty of the utility or the duty assumed by the subscriber on becoming a member of the exchange. While it may be conceded that there is some merit in this contention, and that it is at least not without a theoretical basis, yet as a practical question we fail to see how such duty of a subscriber, if at all existing, can be enforced, or how any subscriber can be prejudiced by the self-imposed limitation of another subscriber's service. Whether in the presence of each other or at the ends of a telephone line, men may refuse to speak to each other. Because one does not wish to speak with a particular person by telephone does not seem to be a valid reason for refusing him the privilege of thus speaking to those with whom he does desire

to communicate. One has no right to impose a conversation upon another against his will, and no one should be penalized because of his refusal to submit to such an imposition. *In re Use of Silent Numbers by Wis. Tel. Co.* 587, 589–590.

RATES.
See RATES.

VALUATION.
See VALUATION.

TERMINAL CHARGES.

See DEMURRAGE CHARGES; SWITCHING CHARGES.

TERMINAL EXPENSES.

As element affecting ton-mile rates for long and short hauls, *see* RATES —RAILWAY, 9.
As element considered in making rates for railways, *see* RATES—RAILWAY, 12.

TERMINAL FACILITIES.

See STATION FACILITIES.

THROUGH RATES.

Joint or through rates, *see* RATES—RAILWAY, 2–3, 34, 47, 50.

TILE.

Rates, establishment of joint rates, Wisconsin points, *see* RATES—RAILWAY, 47.
Rates, reasonableness of, Wisconsin points, *see* RATES—RAILWAY, 47.

TILE AND BRICK.

Rates, establishment of joint rates, Wisconsin points, *see* RATES—RAILWAY, 47.
Rates, reasonableness of, Wisconsin points. *See* RATES—RAILWAY, 47.

TOLL BRIDGE RATES.

See RATES—TOLL BRIDGE.

TOLL BRIDGES.

Depreciation, rate of depreciation of toll bridge, *see* DEPRECIATION, 2.

RATES.
See RATES—TOLL BRIDGE.

TOLL RATES.

Telephone toll rates, *see* RATES—TELEPHONE.

TOLL SERVICE.

Rates for toll service, *see* RATES—TELEPHONE, 4, 6, 8.
Telephone toll service, *see* TELEPHONE UTILITIES, 13, 16, 21–24.
Toll service, telephone utilities, rates for, *see* RATES—TELEPHONE, 4, 6, 8.

TON-MILE COSTS.

Ton-mile costs less for long hauls than for short hauls, *see* RATES—RAILWAY, 9.

TRACK CONNECTIONS.

See SWITCH CONNECTIONS.

TRAFFIC CONDITIONS.

As element considered in making rates for telephone utilities, *see* RATES—TELEPHONE, 2.

TRAFFIC OFFICERS.

Street railways, traffic officers to improve service of, *see* STREET RAILWAYS, 18.

TRAFFIC STUDIES.

Traffic studies in determination of unit costs for telephone utilities, *see* ACCOUNTING, 19–20.

TRAIN SCHEDULES.

See also TRAIN SERVICE.

Adjustment of train schedules.

1. Train schedules must be arranged for the convenience of the patrons of the entire line taken as a whole even though in serving the larger purpose the schedules work some hardship on a few communities and individuals. *Hume et al. v. C. M. & St. P. R. Co.* 80, 83.

TRAIN SERVICE.

Adequacy of train service.

1. The petitioners allege that the passenger train service rendered by the C. M. & St. P. Ry. Co. between Elkhart Lake and Green Bay is inadequate and ask that the railway company be required to extend the operation of train No. 23, leaving Milwaukee at 5:10 p. m. or earlier, from Elkhart Lake to Green Bay, or to change the time of its passenger train No. 9 so that it shall leave Milwaukee at 5:10 p. m., or earlier, and arrive in Chilton before 7:50 p. m. Prior to July 14, 1912, a passenger train was operated between Milwaukee and Green Bay on a schedule under which it arrived at Chilton at 7:50 p. m. On that date a new train, known as No. 9, was put on between Milwaukee and Green Bay and scheduled to arrive in Chilton at 9:37 p. m., and the earlier evening train was discontinued north of Elkhart Lake. No. 9 is a through train running from Chicago to points in upper Michigan. The chief cause of complaint appears to be that it is impossible under the present schedule for persons at Chilton to reach points north of Chilton for evening engagements without taking the morning train and thereby losing an entire day. *Held:* Train schedules must be arranged for the convenience of the patrons of the entire line taken as a whole, even though in serving the larger purpose the schedules work some hardship on a few communities and individuals. The service rendered by the respondent at Chilton is reasonably adequate. The petition is therefore dismissed. *Hume et al. C. M. & St. P. R. Co.* 80, 83.

2. Complaint is made that the respondent railway companies have

failed to comply with the order issued in this matter on Aug. 15, 1912 (9 W. R. C. R. 530), requiring them to so arrange their schedules that goods shipped in less than carload lots from Milwaukee to Seymour, Black Creek and Shiocton shall reach their destination within 84 hours from the time of delivery to the carrier at Milwaukee. The advisability of modifying the provisions of this order is under consideration. It appears that if a shipment does not reach its destination in 66 hours, it is inevitably delayed another 24 hours and it was suggested by the respondents that the order be modified to allow 90 hours in transit instead of 84, since a limitation to 84 hours is in effect a limitation to 66 hours. *Held:* A 66 hour limit allowing 36 hours, after 6 p. m. of the day on which the goods are received, for transportation over the C. M. & St. P. Ry. or the C. & N. W. Ry. from Milwaukee to Green Bay and 30 hours for the Green Bay & Western R. R. Co. to sort the goods and carry them from Green Bay to the points designated, is reasonable. The respondents are ordered to so arrange their schedules as to comply with this limit. *John Hoffman & Sons Co. v. C. M. & St. P. R. Co. et al.* 322, 324.

3. The petitioner alleges that the service of the respondent at Apollonia, Rusk county, is inadequate by reason of the discontinuance by the respondent, on Sept. 24, 1913, of its former practice of stopping passenger trains No. 84 and No. 85 at this point. The respondent formerly maintained a station at Apollonia but closed it in 1910 and the Commission, 1911, 6 W. R. C. R. 526, refused to order a restoration of station facilities. *Held:* In view of the cost of operation, the close proximity of Bruce station to Apollonia, the fact that the people have practically abandoned the station at Apollonia, and the fact that the farming community surrounding Apollonia, as shown by the petition, does not require trains to stop at this point, the Commission would not be justified in requiring two interstate trains to stop there for the purpose of accommodating the very few persons who desire to avail themselves of their services. The petition is therefore dismissed. *Hayden v. M. St. P. & S. S. M. R. Co.* 390, 392.

4. The petitioner alleges that the train service furnished by the respondent at Winnibijou, Douglas county, is inadequate and discriminatory because of the respondent's failure to stop its Sunday excursion train at that point. The train in question is operated during the summer months from Duluth, Minn., to Bibon, and return, and stops at all stations in Wisconsin between Superior and Bibon except Winnibijou. The respondent advances as its reason for refusing to stop the train at Winnibijou the fear that the practice of stopping at this point would be detrimental to the interests of the Winnibijou Fishing Club and ultimately its own interests. *Held:* The reason given by the respondent for its refusal to render the service desired cannot be accepted. The failure of the respondent to stop its Sunday excursion train at Winnibijou, while making stops at other stations of equal or less importance, is unjustly discriminatory. The respondent is therefore ordered to arrange the future schedule of its summer Sunday excursion train between Superior and Bibon to provide a stop at Winnibijou. *Hughson v. D. S. S. & A. R. Co.* 406, 408.

5. The petitioner alleges that the respondent's passenger train service at Unity is inadequate. *Held:* The petitioner's request that the respondent be ordered to stop passenger trains number 103 and 104, which form part of the respondent's limited service between Chicago and Ashland, at Unity cannot be granted for the reason that the train service now rendered at Unity is reasonably adequate. *Village of Unity v. M. St. P. & S. S. M. R. Co.* 430, 436.

6. The petitioner alleges that the passenger train service rendered by the respondent at the village of Diamond Bluff is inadequate and asks that the respondent be required to stop its trains No. 51 or No. 47,

northbound, and No. 48 or No. 58, southbound, at this point. *Held:* For reasons discussed in *Kemp v. C. B. & Q. R. Co.* 1909, 3 W. R. C. R. 350, the present service cannot be condemned as inadequate. The petition is dismissed. *Gantenbein v. C. B. & Q. R. Co.* 525, 526.

7. The petitioners allege that the respondent's passenger train service at Caledonia, Racine county, is inadequate and ask that the respondent be required to stop its trains No. 9 and No. 24 at Caledonia on signal to receive and discharge passengers. Under the present schedule, residents of the territory surrounding Caledonia are unable to reach the county seat at Racine over the respondent's line and return the same day, although the distance one way is only fifteen miles. The respondent objects to the granting of the request of the petitioners on the ground that the trains named are interstate trains operating between Chicago and upper Michigan in competition with interstate trains on the C. & N. W. system. *Held:* The southbound train service at Caledonia is inadequate. The respondent is ordered to stop its train No. 24, scheduled to leave Milwaukee at 7:30 a. m., at Caledonia on signal to receive and discharge passengers, or, at its option, to so adjust its service that residents of Caledonia will be enabled to reach Racine and return the same day, having a reasonable amount of time at that city during business hours for the transaction of business. *Callen et al. v. C. M. & St. P. R. Co.* 732, 734.

8. This proceeding involves two complaints relating to the same subject matter. The petitioners allege that the failure of the respondent from time to time to make connection at Prentice between its train No. 84 running between Minneapolis, Minn., and Pembine, Wis., and its train No. 111 running between Milwaukee and Ashland, results in great inconvenience to passengers going east, and asks that the respondent be required to make this connection at all times. The respondent has a rule requiring train No. 84 to be held for at least 30 minutes at Prentice whenever train No. 111 is late and, upon instructions from the superintendent of transportation at Minneapolis, for such longer period as may be necessary to connect with train No. 111 whenever there are any considerable number of passengers on train No. 111 who have points east of Prentice as their destination. The instant complaints appear to have been caused by the failure of the conductor on train No. 111 on a certain day to notify the superintendent of transportation that there were on the train a number of passengers requiring connection with train No. 84. *Held:* In operating trains the convenience of the greater number of passengers must always be subserved. The respondent's practice at Prentice is proper and should not be interfered with. The petitions are therefore dismissed. *Kissinger et al. v. M. St. P. & S. S. M. R. Co.* 790, 792.

Freight service.
See ante, 2.

TRAINS.

Stopping of trains, for protection of railroad crossings, *see* RAILROADS, 12.

TRANSFERS.

Double transfers on street railways, *see* RATES—STREET RAILWAY, 1.

TRANSIT RATES.

See RATES—RAILWAY.

TROUBLE CLEARANCE.

Telephone utilities, trouble clearance, *see* TELEPHONE UTILITIES, 20.

TRUCKS.

See FARM TRUCKS; GASOLINE ENGINE TRUCKS; LOGGING TRUCKS.

TWINE.

Refund on shipment, Waupun to Menomonie, *see* RATES—RAILWAY, 48; REPARATION, 22.

UNDISTRIBUTED EXPENSES.

General and undistributed expenses as element considered in making rates for electric utilities, *see* RATES—ELECTRIC, 6.

UNDUE PREFERENCE.

See DISCRIMINATION.

UNIFORM ACCOUNTING.

See ACCOUNTING.

UNIFORM ACCOUNTS.

See ACCOUNTING.

UNIFORM CLASSIFICATION.

Rates, unreasonableness of, due to lack of uniformity of classification, *see* RATES—RAILWAY, 26, 37.

UNIFORM RATING.

See UNIFORM CLASSIFICATION.

UNIT COSTS.

Determination of unit costs for electric utilities, *see* ACCOUNTING, 1–7, 12–14.
for gas utilities, *see* ACCOUNTING, 8–13.
for street railways, *see* ACCOUNTING, 14–15.
for telephone utilities, *see* ACCOUNTING, 16–22.
for water utilities, *see* ACCOUNTING, 23–24.

UNIT PRICES.

Unit prices in the determination of value of public utilities, *see* VALUATION, 15, 19.

UNJUST DISCRIMINATION.

See DISCRIMINATION.

UNJUST RATES.

See RATES.

UNREASONABLE RATES.

See RATES.

UTILITIES.

See ELECTRIC UTILITIES; GAS UTILITIES; HEATING UTILITIES; TELEPHONE UTILITIES; TOLL BRIDGES; WATER UTILITIES.

VALUATION.

DETERMINATION OF VALUE OF PROPERTY OF PUBLIC UTILITIES—ELEMENTS CONSIDERED.

In general.

1. There are several elements besides the original cost, the original cost less depreciation, the cost of reproduction, and the cost of reproduction less depreciation that should be taken into consideration in arriving at a fair value of the property under appraisement. These include, among other things, the outstanding indebtedness, the gross and net earnings of the plant, and the cost or value of the business the plant has acquired or its going value. *In re Purchase Manitowoc El. Lt. Plant*, 452, 465.

Going value—Net cost of building up the business.

2. In making an allowance for going value in valuations for rate-making purposes it would be an injustice to force the consumer to bear costs resulting from the failure of the utility's management to properly stimulate the sale of the utility's product. *City of Waukesha v. Waukesha G. & El. Co.* 100, 109.

3. In the instant case it was brought out that the development cost could not be determined on the investment basis because of abnormal items which would bring such costs far above normal and make the computations worthless for the determination of a fair value of the property. *Yanko et al. v. Portage American Gas Co.* 136, 138.

Physical property—Cost of reproduction new—Allowance for item of cost not actually incurred—Paving.

4. Notwithstanding the fact that consideration must be given to the cost of paving over mains and services when determining the cost of reproducing the present plant, it does not necessarily follow that in a matter of rates such items should be allowed. The city of Waukesha in constructing this pavement over the mains and services of the respondent assessed the costs for such construction upon the very persons who might be affected as consumers of this utility's product by an increase in rates due to the increase in the valuation of the property upon which the company is entitled to earn. *City of Waukesha v. Waukesha G. & El. Co.* 100, 104.

5. "Every legitimate expenditure in adapting the utility to the demands of progress and community growth is a proper charge to construction, and as such the investment therefor is entitled to participate in the distribution of the earnings from operation. Obviously expenditures for pavement incurred by the utility in response to assessments levied therefor by the city, or the cost of cutting through such pavement for construction purposes and its replacement, are proper capital charges. It does not necessarily follow that the utility is to capitalize expenses for municipal betterment in which it has not participated and where such accruing benefits to the utility are remote and incidental, and thus compel the subscribers for utility service to pay increased rates because of public improvements. The improvement is not a proper element of value where the pavement has not been paid for by the utility, nor any expense in connection with it directly incurred, in determining a value which shall serve as the basis for an adjustment of rates." (*City of Ripon v. Ripon Lt. & Water Co.* 1910,

5 W. R. C. R. 1, 10.) *City of Waukesha v. Waukesha G. & El. Co.* 100, 104-105.

Physical property—Cost of reproduction new—Continuous construction.

6. The utility in the instant case maintains that from 10 to 15 per cent should be added to the value of the physical property because continuous construction under contract is less expensive than piecemeal construction. *Held:* Some consideration should be given this item in determining the fair value of the utility, but it does not seem that it can be properly considered as an element in determining the cost of reproducing the physical plant. *In re Purchase Manitowoc El. Lt. Plant*, 452, 461.

Physical property—Cost of reproduction new—Discounts on bonds.

7. The Commission has held that reasonable and necessary bond discounts are an element to be considered in arriving at the value of a public utility property for rate-making purposes. Some of the facts to be considered in deciding when bond discounts are reasonable and necessary are the interest rate at which the bonds are issued, the relation of the par value of the bonds to the value of the property against which they are issued, and whether the bonds are an original issue to secure money to start utility operations or a refunding issue. In this case it is clear that the par value of the bonds which were issued is much in excess of the value of the property by which they were secured. The effect of this discrepancy upon the discounts at which bonds were sold is not fully shown, but it seems only reasonable to suppose that the circumstances mentioned bore some relation to the extent of the discount. Also it is doubtless true that, under conditions identical in every other respect, a different rate of interest would have resulted in a different discount. The financial history of the plant, prior to the bond issue of June 1, 1907, is not in the record in this case, but it seems clear that, no matter what the nature of the actual transactions, the new bonds took the place of liabilities of the plant, which in some form had been outstanding previously. Under all these circumstances, it seems that very little if any allowance should be made in our valuation of the property for the item of discounts on bonds. *In re Appl. Manitowoc G. Co.* 325, 332-333.

Physical property—Cost of reproduction new—Engineering, etc. during construction.

See post, 8.

Physical property—Cost of reproduction new—Overhead expenses during construction.

8. Under the head of "Engineering etc., during construction" may be considered engineering, superintendence, and interest during construction, contractor's profit, cost of preliminary investigation, cost of securing franchises, and incorporation and bond expense. It is believed that in the instant case the 15 per cent allowance for various overhead expenses during construction is all that should be made to cover these expenses, with the exception of an allowance for contractor's profit, and the unit prices used in valuing the property include all the allowance which should be made for this item. *In re Appl. Manitowoc G. Co.* 325, 332.

Physical property—Cost of reproduction new—Paving.

9. In matters before this Commission concerning rate values or purchase values it is the policy to allow for paving actually constructed. *In re Service of T. M. E. R. & L. Co. in Milwaukee*, 178, 233.

Physical property—Original cost.

10. In establishing the fair value of a plant for the purpose of municipal acquisition, the original cost of construction together with all additions to the property down to date must be considered as an important element. If the books of the company have been accurately kept and if correct methods of accounting have been followed, the books should show the total amount expended for construction and also the extent of the depreciation of the property. Frequently we find that the book value as reported differs very much from the cost of reproduction as determined by our engineering department. Some difference is naturally to be expected, because of the variation in price. In the instant case, however, the difference is relatively small. *In re Purchase Manitowoc El. Lt. Plant*, 452, 461–462.

DETERMINATION OF THE VALUE OF PROPERTY OF PUBLIC UTILITIES—METHODS OF APPRAISAL.

Determination of going value—Net cost of building up the business.

11. In determining going value it is not certain that the full extent of the losses incurred by a utility should be accepted as a cost of developing the business, for losses may be due to causes other than the actual developmental costs. *In re Purchase Antigo W. Co's Plant*, 156, 163.

12. Any attempt to estimate what it would cost to reproduce the business of a utility is open to serious objections, some of which have been discussed in *Common Council of the City of Green Bay v. Green Bay Water Co.* 11 W. R. C. R. 1913, 236–243. With proper allowance made for these objections, however, some light can be obtained upon the cost of developing the business by estimates of the cost of developing a paying business for a utility which is assumed to start operation in a city comparable to the one involved in the instant case. *In re Purchase Antigo W. Co's Plant*, 156, 164.

Determination of the value of physical property of the plant—Cost of reproduction new—Land.

13. The price placed on land by the tax assessor is not a satisfactory measure of value, for the reason that it attempts not to show the full value, but to maintain a just proportionate value between different pieces and classes of property. *In re Purchase Manitowoc El. Lt. Plant*, 452, 455.

Determination of the value of the physical property of the plant—Cost of reproduction new—Obsolete equipment.

14. In obtaining the cost of reproducing equipment which is no longer on the market, consideration must be given to the cost new of modern equipment designed to do the same work. The present value, however, of obsolete equipment which is still in use and rendering fair service would seem to be something above scrap value. *In re Purchase Manitowoc El. Lt. Plant*, 452, 458.

Determination of the value of the physical property of the plant —Cost of reproduction new—Prices applied in determining cost.

15. The city of Manitowoc in the instant case made a valuation of the distribution system of the utility using a flat price per mile, determined upon the basis of the cost in the construction of a similar plant as a unit price. The Commission in making its valuation listed every piece of material, fixed a price for each separately and determined from inspection the extent of the depreciation of each item. Compared with such a method, it does not seem to us that the one used by the city can be seriously considered, for though satisfactory for comparative purposes, it is intended merely to represent an average condition. The number of consumers per mile of wire, the exact number of miles or units, the size of the poles, the character of the construction, and any number of other factors might cause the system at Manitowoc to deviate from the average. We cannot see how such a figure can represent the cost of reproducing the system under consideration, except in a rough way which is not at all satisfactory for the purpose at hand. *In re Purchase Manitowoc El. Lt. Plant*, 452, 456.

Determination of the value of the physical property of the plant —Present value.

16. It has been contended that to assume the same per cent condition for the property on January 1, 1912, as existed at the time of the 1910 appraisal would be misrepresentative of the conditions. However, this does not seem to be true when certain factors are considered which, when analyzed, tend to establish the percentage at about the same figure. In the first place it must be remembered that the present value of 1910 has gone through two full years of depreciation up to January 1, 1912, and through three years up to the first of the same month for 1913. This decreases the old present value to a little over an average of 59 per cent condition on January 1, 1913,—much lower than the one established in 1910. Although the new additions coming in during the succeeding three years at a 100 per cent condition would obviously raise the condition in the aggregate, the weight of depreciation of the old property at over nine million dollars, the figures show, would tend to more than offset the weight of the new additions at three million dollars during the last three years. This is quite clearly substantiated by computations which show that the present value on a cumulative basis is about equal to the present value obtained on the basis of 73.85 per cent condition. It must also be borne in mind that the additions during 1910, for instance, have up to January 1, 1913, depreciated on an average of two and one-half years and are therefore below a 100 per cent condition. Again, the renewals which the company has made during this three-year period have not been very extensive and consequently have not increased the per cent condition materially. And finally, it may be said that the placing of the present value upon a 4 per cent fund basis in 1910 instead of a straight line basis gives the company the benefit of a high final value. In view of the facts outlined above it is quite certain that the per cent condition of 73.85 is not very far out of the way. *In re Service of T. M. E. R. & L. Co. in Milwaukee*, 178, 229–230.

Determination of the value of the physical property of the plant —Present value—Depreciation of plant.

17. In order to determine the present investment of the company it is necessary to estimate the amount the property has depreciated through use, and to note the effect that the establishment of a depre-

ciation reserve of an equal amount will have on the balance sheet. *In re Invest. Mosinee El. Lt. & P. Co.* 712, 714.

Determination of the value of the physical property of the plant—Present value—Obsolete equipment.

18. In obtaining the cost of reproducing equipment which is no longer on the market, consideration must be given to the cost new of modern equipment designed to do the same work. The present value, however, of obsolete equipment which is still in use and rendering fair service would seem to be something above scrap value. *In re Purchase Manitowoc El. Lt. Plant*, 452, 458.

Determination of the value of the physical property of the plant—Unit prices.

See also ante, 15.

19. The method followed by Mr. Morgan, of using unit prices based upon conditions prevailing at the time the work was done, would tend to show what it actually cost or would normally have cost at such time. The use of prices based on an average for a number of years prior to the date of the valuation, as made by the Commission, on the other hand, indicates the cost of reproducing the property, rather than the actual amount which the property has cost. Both the actual investment and the cost of reproduction should be considered in finally fixing a value, but it is hardly to be expected that physical valuations designed to show two materially different sets of facts should coincide very closely. The valuation submitted on behalf of the city is indicative of what the investment was or might normally have been, but it does not show what it would actually cost to reproduce the property. *In re Purchase Antigo W. Co's Plant*, 156, 160–161.

DETERMINATION OF THE VALUE OF PROPERTY OF PUBLIC UTILITIES—VALUATION IN PARTICULAR CASES.

Electric utilities—Darlington El. Co., Darlington.

20. A valuation of the physical property as of March 1, 1913, shows that the total value of the petitioner's operating property, when reproduced new, excluding non-operating property, amounts to $14,639, with a present value of $11,309. The non-operating property is valued at $22,465, cost new, and $14,006 present value. As careful and complete a study of the conditions involved in this case as it has been practicable for us to make indicates that the amount of non-operating property which can be recognized in the appraisal may be placed at $6,126 present value, that being its value for stand-by or reserve purpose. *In re Appl. Darlington El. Lt. & W. P. Co.* 344, 350.

Electric Utilities—Endeavor El. Lt. & P. Co., Endeavor.

21. The cost new of the physical property of the applicant as of June 30, 1913, was placed at $6,362 in the Commission's inventory, and the present value at $5,376. *In re Appl. Endeavor El. Lt. & P. Co.* 448, 451.

Electric utilities—Manitowoc El. Lt. Co., Manitowoc.

22. An appraisal of the physical property made as of Jan. 1, 1913, and revised in the month of April, 1913, shows a cost new of $173,708 and a present value of $132,770. Considering all the factors that must be considered under the law in arriving at a fair and just value, it seems that $137,500 is a just compensation to be paid for the property actually used and useful for the convenience of the public. *In re Purchase Manitowoc El. Lt. Plant*, 452, 454, 465.

Electric utilities—Mosinee El. Lt. & P. Co., Mosinee.

23. A valuation of the physical property (date of decision Feb. 9, 1914) shows a cost new of $7,195 and a present value of $6,648. When proper adjustments are made for depreciation and materials and supplies $6,953 is obtained as the present investment. Taking all the facts into consideration it seems that about $7,000 represents a fair value of the property for rate-making purposes. *In re Invest. Mosinee El. Lt. & P. Co.* 712, 713–715.

Electric utilities—Mt. Horeb Heat, Lt. & P. Co., Mt. Horeb.

24. Excluding the non-operative property the valuation as of October 1, 1913, shows a cost of reproduction new of $16,932 and a present value of $13,600, including material and supplies. *In re Appl. Mt. Horeb Heat, Lt. & P. Co.* 653, 655.

Electric utilities—Neshkoro Lt. & P. Co., Neshkoro.

25. An appraisal of the physical property as of June 1, 1913, shows a cost new of $23,113 and a present value of $16,228. *In re Appl. Neshkoro Lt. & P. Co.* 52, 54–55.

Electric utilities—Waukesha G. & El. Co. Waukesha.

26. A valuation of the physical property of the electric utility as of June 30, 1912, shows a cost new of $161,240 and a present value of $132,011. When allowance is made for additions to the investment during the year from June 30, 1912, to June 30, 1913, and all of the various factors involved in the determination of a fair value are given due weight, it appears that the utility should be allowed to earn a reasonable return on about $156,800. *City of Waukesha v. Waukesha G. & El. Co.* 100, 103–111.

Gas utilities—Manitowoc G. Co., Manitowoc.

27. A valuation of the physical property as of Jan. 1, 1913, shows a cost new of $214,708 and a present value of $184,707, or excluding paving, none of which has been cut through by the utility in laying pipes, and the item of non-operating property, a cost new of $205,456 and a present value of $176,960. The total value of the property, including all elements of value, is established as between $196,000 and $200,000, a final statement not being necessary to the decision of the case. *In re Appl. Manitowoc G. Co.* 325, 329–334.

Gas utilities—Portage American G. Co., Portage.

28. A valuation of the physical property as of June 30, 1912, shows a cost new of $118,103 and a present value of $93,088. When all phases of operation are considered it appears that a value of approximately $105,000 will be reasonable for the purposes of this case. *Yanko et al. v. Portage American G. Co.* 136, 137–138.

Gas utilities—Waukesha G. & El Co., Waukesha.

29. A valuation of the physical property of the gas utility as of June 30, 1912, shows a cost new of $248,940 and a present value of $209,890. When allowance is made for additions to the investment during the year from June 30, 1912, to June 30, 1913, and all of the various factors involved in the determination of a fair value are given due weight, it appears that the utility should be allowed to earn a reasonable return on about $233,000. *City of Waukesha v. Waukesha G. & El. Co.* 100, 103–111.

Heating utilities—Waukesha G. & El. Co., Waukesha.

30. A valuation of the physical property of the heating utility as of June 30, 1912, shows a cost new of $45,963 and a present value of

$44,515. Additions to the investment during the year from June 30, 1912, to June 30, 1913, as shown by the utility's annual report to the Commission, amount to $1,598.09. *City of Waukesha v. Waukesha G. & El. Co.* 100, 103–106.

Telephone utilities—Arena & Ridgeway Tel. Co., Spring Green.

31. An estimate of the apportioned value of the Arena & Ridgeway Tel. Co's trunk line between Spring Green and Fernan as of Dec. 1, 1913, shows a cost of reproduction of $246 and a present value of $189. *Arena & Rid'y Tel. Co. v. Troy & Honey Creek Tel. Co. et al.* 763, 765.

Telephone utilities—Farmers' Tel. Co. of Beetown, Beetown.

32. A valuation of the physical property as of April 1, 1913, shows a total cost new of $45,722, of which $8,173 represents city property and $37,549 rural property, and a total present value of $21,653, of which $6,352 represents city property and $15,301 rural property. *In re Appl. Farmers' Tel. Co. of Beetown*, 540, 552–553.

Telephone utilities—Tomahawk Lt., Tel. & Improvement Co., Tomahawk.

33. A valuation of the telephone property (date of decision Dec. 5, 1913) shows a cost of reproduction new of about $18,235 and a present value of about $11,586. *In re Appl. Tomahawk Lt., Tel. & Improvement Co.* 340, 341.

Toll bridge—Postel & Swingle Co., Muscoda.

34. A valuation of the property as of July 30, 1913, shows a cost new of $31,225 and a present value of $19,882. The reasonable value for the purposes of the instant case appears to be about $22,000, including the proper allowance for working capital and going value. *Marcus et al. v. Postel & Swingle*, 47, 49, 50.

Water utilities—Antigo W. Co., Antigo.

35. The revised valuation of the physical property, including an allowance for paving, shows, as of Jan. 1, 1913, a cost new of $128,086, and a present value of $119,229. The fair value of the property used and useful for the public service, as of Jan. 1, 1913, exclusive of materials and supplies on hand, with proper allowance made for all elements to be considered, is $128,800. *In re Purchase Antigo W. Co's Plant*, 156, 158–159, 164.

Water utilities—Beaver Dam W. Co., Beaver Dam.

36. The corrected final summary of the valuation of the physical property as of Nov. 1, 1913, shows a cost new of $135,256 and a present value of $126,651. After a careful consideration of all the elements of value and all the facts and circumstances disclosed, it is the judgment of the Commission that $133,000 is just compensation for the property, exclusive of the stock and materials on hand and additions made to the plant since Nov. 1, 1913. *In re Purchase Beaver Dam Water Co's Plant*, 169, 176–177.

DETERMINATION OF THE VALUE OF PROPERTY OF STREET RAILWAYS—VALUATION IN PARTICULAR CASES.

T. M. E. R. & L. Co., Milwaukee.

37. A valuation computed upon the basis of an appraisal made Jan. 1, 1910, and making proper allowance for all adjustments, additions and renewals reported by the company since Jan. 1, 1910, and for depreciation shows a final fair value of approximately $11,600,000 as of Jan. 1,

1912, and a final fair value of $12,000,000, as of Jan. 1, 1913. *In re Service of T. M. E. R. & L. Co. in Milwaukee*, 178, 229.

VARIABLE EXPENSES.

Apportionment of variable expenses, *see* ACCOUNTING, 1–6, 8–11.
Prorating of variable expenses, *see* ACCOUNTING, 7, 24.

VIADUCTS.

For separation of grades at railroad crossing, *see* RAILROADS, 20.

WAGES AND SALARIES.

Wages of management as element considered in making rates for toll bridge, *see* RATES—TOLL BRIDGE, 1.

WAGON BOXES.

Rates, reasonableness of, Wisconsin points, *see* RATES—RAILWAY, 26.

WAGONS.

See FARM WAGONS.

WAITING STATIONS.

See STATION FACILITIES.

WATER POWERS.

See also NAVIGABLE WATERS.
Jurisdiction of Commission over river improvements, *see* RAILROAD COMMISSION, 12.

WATER RATES.

See RATES—WATER.

WATER UTILITIES.

Cost of service of water utilities, determination of unit costs, *see* ACCOUNTING, 23–24.
determination of unit costs, proper system of accounting, *see* ACCOUNTING, 23.
Depreciation, rate of depreciation of water plant, *see* DEPRECIATION, 10.

ACCOUNTING.

See ACCOUNTING.

ESTABLISHMENT, CONSTRUCTION AND MAINTENANCE.

Extension of water mains.

1. The Commission, on its own motion, investigated the failure of the village council of Viola to take action on a petition of 25 residents of the village asking for an extension of a water main along a route specified in the petition. Since the hearing, 15 of the 25 petitioners have joined in a petition to the Commission, stating that they realize that, in view of the financial condition of the village, the making of the extension asked for is not warranted at the present time and praying the Commission not to order the extension to be made. *Held:* Under the circumstances an order requiring the laying of the water main exten-

sion in question is unwarranted. The matter is therefore dismissed. *In re Proposed Extension Viola Mun. W. Plant*, 702, 703.

MUNICIPAL ACQUISITION—TERMS AND CONDITIONS OF SALE AND PURCHASE.

Compensation for property—Compensation determined by Commission in particular cases.

2. This is a proceeding to determine the just compensation to be paid in the purchase of the property of the Antigo W. Co. by the city of Antigo. Valuations made by the engineers of the Commission and by the city are considered. The water company submits no valuation of the property as a whole, but introduces testimony tending to show the existence of a high going value or developmental cost and contends that the unit prices placed on the items of physical property in the valuation should be higher than the prices used by the engineers of the Commission. The city's valuation is, on the whole, somewhat lower than the Commission's tentative valuation. The actual investment in the property under consideration is indicated by the records of construction, a part of which were made a matter of record in the case of *Hill v. Antigo W. Co.* 1909, 3 W. R. C. R. 623. Inasmuch, however, as the company has not provided a depreciation reserve nor disclosed in its reports the method employed in accounting for reconstruction work, it appears that reconstruction must have been handled as a charge to property and plant, and that the actual cost of the plant is overstated by the amount of such reconstruction. This fact must be considered in accepting as an indication of the value of the property the original cost of the property as shown by the company's records. In addition to the physical property, the cost of developing the business must be given consideration. In the present case this cost is computed separately for interest rates of 6 and 7 per cent upon the original cost of the plant as shown by the records and upon a hypothetical original cost obtained by deducting the amount of the reported extensions from the cost of reproduction of the property. It appears that with an interest rate somewhere between 6 and 7 per cent the net losses incurred in developing the business would be practically nothing, and that even if interest is finally included at 7 per cent and allowance made for the overstatement of losses due to improper charges to construction, the full extent of the losses need not necessarily be accepted as the cost of developing the business. Losses may be due to causes other than the actual developmental costs and may even continue after the normal developmental period is past. Whether in the present case the investment in the utility was somewhat ahead of the needs of the community may, perhaps, be a question. *Held:* The just compensation to be paid to the water company for the taking of the property used and useful for the convenience of the public, exclusive of the stock and material on hand and additions made to the plant since Jan. 1, 1913, is $128,800. The city is ordered to pay this sum to the water company within six months from date, together with such price as may be agreed upon between the parties or, in the event that the parties are unable to agree, fixed by the Commission, for the materials and supplies on hand at the date of the taking of the plant and for new additions made to the plant since Jan. 1, 1913, with interest at 6 per cent per annum until the compensation is fully paid. *In re Purchase Antigo W. Co's Plant*, 156, 164–165.

3. This is a proceeding to determine the compensation to be paid in the purchase of the property of the Beaver Dam Water Co. by the city of Beaver Dam. The tentative valuation made by the engineers of the Commission is accepted by the parties to the proceeding as a fair valuation of the physical property except in respect to certain particulars

which are considered in detail and given proper revision. *Held:* The just compensation to be paid to the water company for the taking of its property used and useful for the convenience of the public, exclusive of the stock and material on hand and additions made to the plant since Nov. 1, 1913, is $133,000. The city is ordered to pay this sum to the water company within six months after the transfer of the property to the city, together with such price as may be agreed upon between the parties to this proceeding or, in the event that the parties are unable to agree, fixed by the Commission, for the materials and supplies on hand at the date of the taking of the plant and for new additions made to the plant since Nov. 1, 1913, with interest at 6 per cent per annum until the compensation is fully paid. *In re Purchase Beaver Dam Water Co's Plant*, 169, 177.

Power of municipality to acquire public utility—Action by municipal council—Regularity.

4. Objection to the jurisdiction of the Commission is made by the Janesville W. Co. in the proceeding instituted by the city of Janesville for the purpose of acquiring the company's water plant. The objection, by consent of the parties, is to be determined before the proceeding is further continued. It is contended by the company in the instant case that the city has never determined, as required by law, to acquire the water plant or property of the company, inasmuch as the question submitted at the general spring election in 1912 was as follows: "Shall the city of Janesville purchase the Janesville Water Company?" It is further contended that the matter of the payment of just compensation for the property proposed to be taken has never been considered, voted upon or determined by the electors or by the common council of the city, as required by law; that no fund has been provided out of which payment may be made, as required by law; that no provision for such payment has been made; and that the city is without power, under sec. 3 of art. XI of the state constitution, to incur the indebtedness proposed to be incurred in the making of such payment. *Held:* The questions here raised were decided by the Commission in the *Racine* case (1912, 10 W. R. C. R. 543) and the position of the Commission was affirmed by the supreme court in the case of *Janes v. City of Racine* (1913, 155 Wis. 1). The objections are therefore overruled. *In re Purchase Janesville Water Co's Plant*, 29, 31.

Power of municipality to acquire public utility—Action by municipal council—Regularity—Capacity of city to incur indebtedness.

See ante, 4.

Power of municipality to acquire public utility—Action by municipal council—Regularity—Provision for compensation.

See ante, 4.

Power of municipality to acquire public utility—Action by municipal council—Regularity—Submission of question to voters.

See ante, 4.

OPERATION.

Requirements as to service and facilities—Adequacy of service.

See also ante, 1.

5. The adequacy of the service supplied by the water department of the village of Sharon municipal water and gas plant is, in the instant

case, incidentally considered in connection with the main question at issue. *Held:* There is no evidence to show that the service has been deficient or that there has been a laxity in operation causing the plant to deteriorate to a greater extent than under the previous conditions of operation. *Vill. of Sharon v. United Heat, Lt. & P. Co.* 1, 17.

RATES.

See RATES—WATER.

VALUATION.

See VALUATION.

WATERS.

See NAVIGABLE WATERS.

WEIGHTS.

MINIMUM CARLOAD WEIGHTS.

Carload minimum on bark, *see* RATES—RAILWAY, 46.
on beer, *see* RATES—RAILWAY, 18–19.
on brick and tile, *see* RATES—RAILWAY, 47.
on cordwood, *see* RATES—RAILWAY, 52.
on crushed stone and gravel, *see* RATES—RAILWAY, 31.
on dry slab wood and edging, *see* RATES—RAILWAY, 49.
on edging and dry slab wood, *see* RATES—RAILWAY, 49.
on excelsior, *see* RATES—RAILWAY, 25.
on gravel and crushed stone, *see* RATES—RAILWAY, 31.
on kiln wood, *see* RATES—RAILWAY, 52.
on lime, *see* RATES—RAILWAY, 33.
on slab wood, *see* RATES—RAILWAY, 52.
on tanbark, *see* RATES—RAILWAY, 46.
on tile, *see* RATES—RAILWAY, 47.
on twine, *see* RATES—RAILWAY, 48.
on wood, *see* RATES—RAILWAY, 49, 52.

WITHDRAWAL OF SERVICE.

Withdrawal of service by public utility for non-payment of bills rendered, *see* RULES AND REGULATIONS, 11.

WOOD.

Rates, absorption of switching charges, Waukesha, *see* RATES—RAILWAY, 45.

Rates, joint rates, establishment of, Wisconsin points, *see* RATES—RAILWAY, 50.

Rates, reasonableness of, Wisconsin points on the C. M. & St. P. and the C. & N. W. Rys. to Waukesha, *see* RATES—RAILWAY, 52.

Reasonableness of rates and refund on shipments, dry slab wood and edging, Oshkosh, Wisconsin points on the C. & N. W. Ry., *see* RATES—RAILWAY, 49; REPARATION, 8.

Reduction of rate and refund on shipments, Kennan to Phillips, *see* RATES—RAILWAY, 27; REPARATION, 17.

Refund on shipments, Wisconsin points on the M. St. P. & S. S. M. Ry. to Waukesha, *see* RATES—RAILWAY, 51; REPARATION, 15.

WOOD PULP.

See PULP.

WOODEN BOXES.

See BOXES.

YARDAGE FACILITIES.

See STATION FACILITIES.

ZONE SYSTEM RATES.

For street and interurban railways, *see* RATES—INTERURBAN, 2; RATES—STREET RAILWAY, 2.

OPINIONS AND DECISIONS

OF THE

RAILROAD COMMISSION

STATE OF WISCONSIN

VOLUME XIV

FEBRUARY 17, 1914, to AUGUST 12, 1914.

COMPILED BY
LEWIS E. GETTLE
Secretary

MADISON, WISCONSIN
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1915

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RAILROAD COMMISSION OF WISCONSIN.

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Secretary.

TABLE OF CASES REPORTED

TABLE OF LAWS CITED

TABLE OF CASES CITED

LOCALITIES INDEX

OPINIONS AND DECISIONS

OF THE

Railroad Commission of Wisconsin

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF THE RATES, RULES AND REGULATIONS OF THE ASHLAND WATER COMPANY.

Decided Feb. 17, 1914.

The Commission, on its own motion, investigated the rates, rules and regulations of the Ashland Water Co. after receiving informal complaints from patrons of the utility (1) against the utility's practice of requiring certain classes of consumers to furnish their own meters if they desired to be served on the meter basis and (2) against the character of the water supplied by the utility. In the course of the proceedings the utility itself filed a petition for such a revision of rates as might be necessary to (1) afford a fair return to the utility upon the property used by it in serving the public and (2) establish rates which are more equitable than the rates now charged in their relations as between private and public consumers. The most serious complaint against the utility appears to be that with respect to the quality of water furnished. The water in question is taken almost entirely from Chequamegon Bay of Lake Superior and is exposed to contamination from the sewage of the city which empties into the bay. The utility operates sand filter beds and applies the hypochlorite of lime treatment in order to purify the water. The peculiar circumstances of the case seeming to require it, the Commission had a special investigation and report made by an expert in matters of municipal water supply. The report so made holds: (1) that the city of Ashland is in constant danger from the present source of its water supply; (2) that it is impracticable to secure a supply of pure water by artificial treatment from the present source of supply and, further, that this source will undoubtedly be necessary in the future as a receptacle for industrial sewage from pulp and paper mills and the like; (3) that it is impracticable for the city of Ashland with its present resources to attempt to secure water from Lake Superior, which is the ideal and ultimate source of supply for any large community located at Ashland; and (4) that it would probably be possible to meet the present needs of the city by resorting to the use of wells to obtain ground water. The report therefore recom-

mends that test wells be driven and that tests be made at certain specified locations near the city to ascertain the best source of ground water supply. In order to determine the rate matter presented by the petition of the utility the Commission made a valuation of the property of the utility and investigated its revenues and expenses. In making the valuation a tentative valuation made by the engineering staff of the Commission by revising a valuation prepared in 1908 for the case of *City of Ashland v. Ashland Water Co.* 1909, 4 W. R. C. R. 273, a valuation submitted on behalf of the city of Ashland, and two valuations submitted by the utility are considered and compared in detail. The utility shows a relatively high investment in physical property as compared with other water plants in Wisconsin. This is due largely to the nature of the source of the water supply. The utility has, until recently, failed to maintain a depreciation reserve. An apportionment of expenses was made between public and private service.

The city has not only had its fire protection service at less than cost but it has also had free of charge a large amount of water which has been supplied to the public schools, police and fire department stations, city hall, public fountains and troughs and the like. This water has been held to be covered by the hydrant rental but the city should have paid for it separately.

The Commission's tentative valuation included an allowance of 12 per cent for general overhead expenses, but this allowance is too low and is therefore increased to 15 per cent in the final valuation.

It is a general rule that public utilities in Wisconsin shall own and maintain the meters through which their services are measured to consumers, yet it is sometimes expedient, if not necessary, to make exceptions to this rule. In the instant case, in view of the present great magnitude of the investment in the plant of the utility, it is deemed inexpedient to require the utility to alter its present rules concerning the furnishing of meters to residence or other small consumers.

As the Public Utilities Law does not permit a difference in charges for like service between consumers who own their meters and those who do not, it is necessary to include in an analysis of costs the investment charges on privately owned meters. The owners of such meters are legally and equitably entitled to a return on the capital charges so included, by the allowance of a meter rental to be deducted in each case from the gross bill. The consumer's investment in a meter box or meter vault, if there be such, is not included, however, in the computation of the meter rental for the reason that this investment is one which properly falls to the consumer rather than the utility to make.

To leave interest, taxes, depreciation and certain operating expenses entirely out of the output costs and charges in the instant case and to put them wholly in the service or fixed charges against consumers would result in an impracticable schedule, as the fixed or service charges would be greater than the value of the service to the smaller consumers. As indicated in previous decisions, the best treatment of the private service portions of the interest, taxes and depreciation is usually to divide their sum between capacity, output and consumer costs in the same proportions as the operating expenses are so divided. This is done in the instant case.

The cost of reproducing the paving placed over a utility's pipe lines after they were laid, as the Commission has already held in several previous cases, has no place in the amount upon which the utility is entitled to earn.

Held: 1. The net earnings of the utility have been too low to constitute a fair return upon the value of the property used in serving the public. The utility is not in such a financial position as to be able to meet the demand for improvement in the quality of water furnished the public by extending the intake to a point in the lake where satisfactory water could always be obtained or to change to a ground water supply. The only plan which it is possible for the utility to adopt under the circumstances is that of installing a suitable water analysis laboratory at the pumping station and employing a competent person to take charge of the laboratory and intelligently supervise the filtration and disinfection of the water supply. Even this plan is not certain of success but the additional expense involved by its use is not large enough to make it too costly to be worth a trial. The cost of applying more scientific treatment to the water purification problem should, however, be properly provided for in the determination of new rates for future service.

2. The greater portion of the deficiency in the net earnings of the utility is reasonably chargeable to the public service and the remainder to the flat rate private service. The meter rates have yielded a fair proportion of the costs but the meter rate schedule is not of the most logical and desirable form. The utility's rules and practices in regard to the furnishing of meters to consumers are reasonable. The unusually but necessarily large investment of the utility requires the exaction of rates materially higher than ordinary water rates.

It is ordered: (1) that the utility within sixty days make such arrangements as may be found necessary to give it the benefit of a suitable laboratory for water analyses in the city of Ashland and thereby keep itself continually informed as to the efficiency of its purification processes by analyses made at least once daily, complete records of such analyses to be permanently preserved; and (2) that the utility discontinue its present schedule of rates and adopt a schedule fixed by the Commission. The schedule of rates prescribed provides for an annual charge of $24,300 for municipal hydrant rental, including general fire protection and flushing of sewers and pavements until extended; a charge for extensions ordered by the city of 8 cts. per foot of mains per annum and $6.50 per additional public fire hydrant per annum; meter and output charges and flat rates for private consumers; and charges for both unmetered and metered private fire service to automatic sprinklers or standpipes inside of buildings. No output charge is included in the charges for metered service for inside fire protection when the water is actually used in fire fighting, otherwise the water used through inside fire protection systems is subject to the rates for commercial service.

It is suggested that the city test the merits of the plan of disinfecting its domestic sewage at the sewer outlets as a method of cooperating with the utility in improving the quality of water furnished by the utility.

On May 8, 1912, the Commission, on its own motion, issued a notice of investigation of the rates, rules and regulations of the Ashland Water Company. This was the result of complaints from citizens of Ashland and patrons of the company against the company's practice of requiring certain classes of consumers

to furnish their meters individually in order to be served on the meter basis; also of complaints as to the character of the water supplied by the company.

In the course of the proceedings the company itself filed a petition and application praying "for such revision and establishment of rates for water service rendered by the company, both for private or domestic consumers and for public or municipal service of all kinds, as shall be found needful and proper,—

First, to afford a fair return to the company upon its plant and property used in the service, after paying the costs of operation and maintenance and all proper charges and allowances thereon; and

Second, to establish rates which are more equitable in their relations as between private and public consumers."

The decision and order herein will cover the company's petition as well as other matters included in the investigation instituted by the Commission.

Hearings were held as follows:

Place of hearing.	Date of hearing.	Appearances.		
		Ashland Water Co,	City of Ashland.	Individual complainants.
Ashland.....	July 1, 1912...	Wm. Wheeler.... Wm. F. Shea.	W.S. Cate.....	M.E. Dillon.
Ashland.....	May 8, 1913...	Wm. Wheeler....	M.E. Dillon.....	Victor Pierrelee for A.J. Huotte et al.
Ashland.....	July 9, 1913...	Wm. Wheeler.... Sam Wheeler....	M.E. Dillon.....	
Madison.....	Sept. 11, 1913.	Wm. Wheeler.... Sam Wheeler....	M.E. Dillon..... D.H. Maury.....	

CHARACTER OF SERVICE.

What appears to be the most serious complaint made by consumers and the city authorities against the water company is that relative to the quality of water furnished. No claim appears to have been made that the capacity of the plant is deficient in any particular so far as meeting the service demands for quantity is concerned. There is a goodly proportion of the mains which are larger than 6 inch diameter, the largest being 20 inch diameter. A close comparison would doubtless show

that the Ashland system of water mains compares very favorably with most others in cities of similar size. The same would also be true of the pumps and other features.

The city's public water supply has always been taken largely from Chequamegon Bay of Lake Superior. Originally, it was entirely from that source. The water company endeavored to develop a well—or ground-water—supply, but did not succeed in obtaining a sufficient quantity. As a result of its efforts to furnish well water to the city the company has, as features of its property and plant, a brick walled covered well, 58.33 feet inside diameter and 35 feet in depth below ground level, and a group of tubular driven wells all connected together and to the pumping station by a pipe system. One of the company's representatives testified that the capacity or yield of the well system was far short of the service requirements. He further testified that other early investigations brought the company to the conclusion that it would probably be impossible to supply the city with water taken exclusively from wells or springs.

The company's original intake pipe in the bay was of 16 inch diameter pipe and only about 1,500 feet long. It appears that the construction of the water works was soon followed by the construction of public sewers which carried the city's sewage directly into the bay. The original intake was abandoned after only about five years of use and a 24 inch diameter intake, having a length more than three times that of the original, was substituted for it. It seems that the second intake, laid in 1889, had a total length of 4,800 feet or more and was laid because of the pollution of the waters along shore and the necessity of getting the water from a point much further out than the length of the original intake.

Prior to 1896 the water taken from the bay was supplied without filtration or other treatment. A slow sand filter plant, consisting of three beds of 1/6 acre each, was built in 1895–6, and was put into operation in February of the latter year. Another similar filter bed and a clear water reservoir were added to the plant in 1912. Earlier in the same year the company began applying the hypochlorite of lime treatment to the filtered water for disinfection.

It is apparently a fact that the water supplied by the company prior to its adoption and use of the hypochlorite treatment possessed a disagreeable taste and odor, particularly at certain

times and seasons. This condition was attributed by at least some of the people of Ashland to creosote or other wastes of a manufacturing plant near the head of the bay, which wastes were disposed of in the bay. The testimony of certain witnesses indicated that the former disagreeable taste and odor of the water had been aggravated by the introduction of the hypochlorite of lime, and that recently the taste and odor may, at certain times, have been due solely to the use of that chemical. This is not the first time nor the first case in which we have learned of such a complaint from consumers of water treated with hypochlorite of lime.

There seems to be no room for doubt that the raw water of the bay, as obtained by the company through its intake pipe, varies widely in its degree of pollution, depending on the varying currents in the bay. It is an apparent fact also that the proper amount of a disinfecting agent to be used in a polluted water depends on the relative condition of that water at different times. The problem of dealing correctly with the purification of a water supply of varying quality and degree of pollution would seem to require the installation and use of facilites for scientifically determining the character of the water at any and all times. The company in this case has had no such facilities of its own. Before the results of analyses made elsewhere for the company can be obtained the character of the water may and probably does often change very materially, requiring a quite different treatment. It may be that the hypochlorite, even when applied in proper quantities, is not applied at the proper point in the flow of water from the filters to the pumps and may not have the necessary mixture and time of action to produce the best effect. These are matters for scientific determination. They are also matters in which the state board of health is concerned, since plans for new water supplies or improvements of existing supplies are required by law to be submitted to that board for its approval before their execution.

City's Plan of Improvement.

In the course of the hearings it became apparent that there was, or at least had been, a belief in the minds of some of the city officials and others that the proper solution of the question of improved service would involve the extension of the intake pipe to some point outside of, and beyond, the government break-

water. This would involve an additional length of about one and one-half miles and an additional investment of probably not less than $120,000. If there were any assurance that the result of such large additional investment would be the securing of a pure water supply the plan might receive serious consideration. The situation, however, is such as to give no assurance that a pure water supply can be obtained in that way. The water works plant in this case already represents a relatively large investment for serving a city the size of Ashland. The practical effect of any such large additional investment at this time would probably be to make the company's service so expensive as to force a continually increasing number of its patrons to discontinue it and obtain water in other ways.

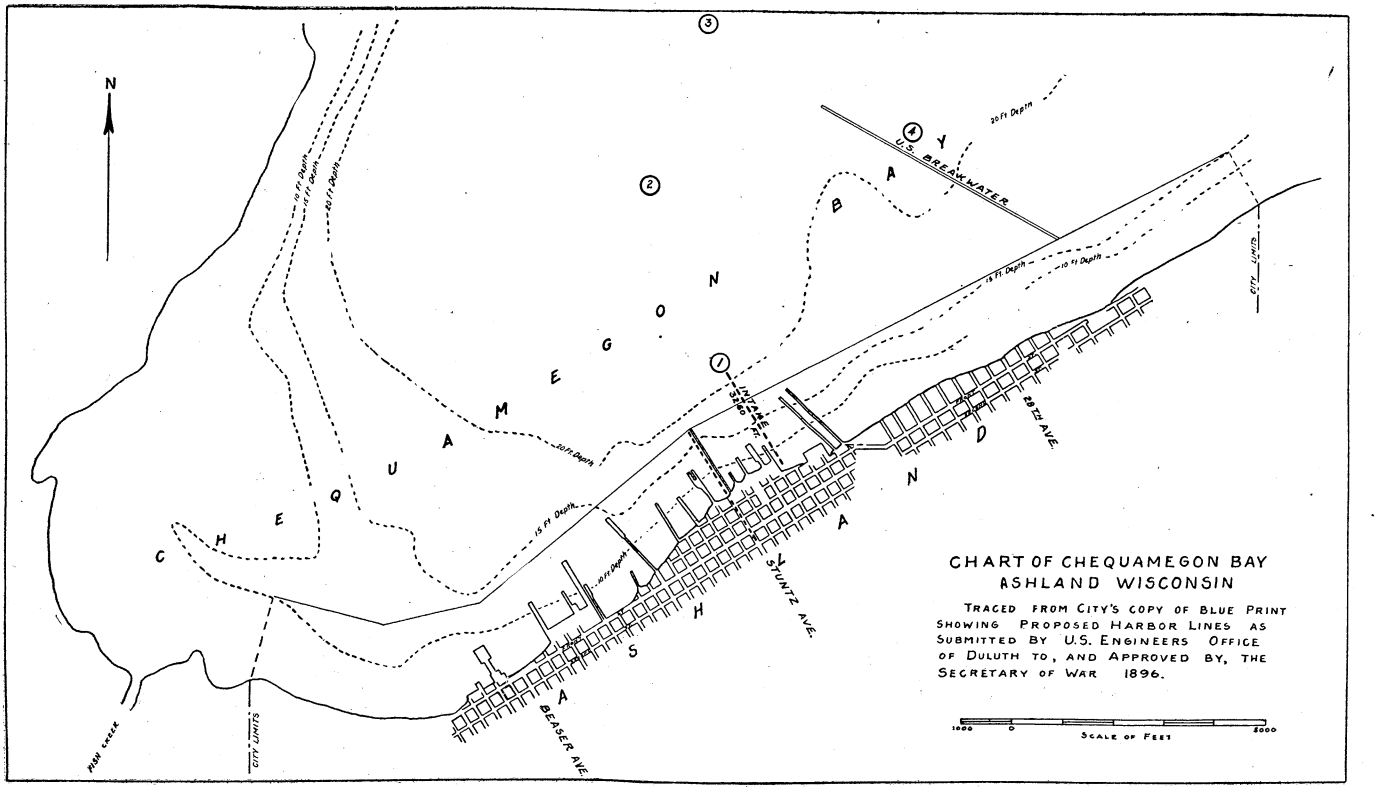
COMMISSION'S INVESTIGATIONS.

The peculiar circumstances of the case seemed to require a special expert investigation and report. For this the Commission engaged PROFESSOR CHARLES S. SLICHTER, of the University of Wisconsin, who has made water supply investigations for the Commission in previous cases as well as for the states and United States geological surveys. His report is here presented in full:

REPORT ON THE WATER SUPPLY OF ASHLAND, WISCONSIN.

PRESENT CONDITIONS.

The water supply of the city of Ashland is taken from a land-locked arm of Lake Superior, known as Chequamegon Bay, a very shallow body of water which constitutes the harbor of the cities of Ashland and Washburn. The position of the bay in the immediate neighborhood of Ashland is shown in Plate I, submitted herewith. This portion of the bay or harbor is partially cut off from the main bay by a government breakwater some 6,000 feet long. The portion of the bay southwest of the line of the breakwater and immediately adjacent to the city is a bag-shaped area, about three miles across the mouth of the bag and three miles in length from the line of the breakwater to the narrow end of the bay at the southwest margin of the bay. The area of this portion is about 6½ square miles. It is this restricted area which constitutes the harbor proper of the city of Ashland. The larger main bay itself is very completely land-locked and cut off from Lake Superior by a long spit of land known as Chequamegon Point and by the Apostle Islands.


N
3
2
4
BAY
U.S. BREAKWATER
20 Ft Depth
15 Ft Depth
10 Ft Depth
CHEQUAMEGON BAY
1
WHARF 3560 Ft.
ASHLAND
STUNTZ AVE.
BEASER AVE.
2ND AVE.
CITY LIMITS
MAN CREEK
CHART OF CHEQUAMEGON BAY
ASHLAND WISCONSIN
TRACED FROM CITY'S COPY OF BLUE PRINT SHOWING PROPOSED HARBOR LINES AS SUBMITTED BY U.S. ENGINEERS OFFICE OF DULUTH TO, AND APPROVED BY, THE SECRETARY OF WAR 1896.
1000 0 2000
SCALE OF FEET

A small stream, known as Fish creek, enters near the extreme southern and western extremity of the bay. The water discharged into the bay by Fish creek is insignificant as to volume and is highly polluted.

The exchange of water between the bay and the main lake is dependent upon currents alternating in various directions, due to the wind and to the differences in barometric pressure and other disturbances of level between the lake and the bay. The exchange of water due to the currents is not great and is irregular and uncertain in extent and direction. The water of the bay in the neighborhood of Ashland, as will be shown later, is in a chronic state of high pollution.

Emphasis must be laid upon the extreme shallow character of Ashland Bay, as shown by the 20 foot contour on Plate I submitted herewith. Less than half of the area of the bay in the immediate vicinity of Ashland exceeds a depth of 20 feet, and the deepest portion hardly exceeds 30 feet. A large portion of the southwest end of the bay is extremely shallow. The bay is in no respect self-cleansing and self-scouring; on the contrary, the southwest end of the bay is little more than a reservoir and breeding place for polluting matter and, which is most unfortunate, is so situated as to slowly feed and pass along its contaminated matter to the deeper portion of the bay.

The water supply for the city is taken through a cast iron intake pipe extending 3,260 feet into the bay ending at a point marked (1) on Plate I. The intake terminates in 20 feet of water.

The main domestic sewer enters the bay at the foot of Stuntz avenue, immediately west of the large "Soo" line ore dock and terminates at the shore line at that point. The direct straight line distance from the sewer outfall to the water supply intake is from 3,300 to 3,500 feet.

The water supply is filtered through four covered sand filters of an area of one-sixth of an acre each, placed directly at the shore end of the intake pipe. The pumping station is located at this same point as well as a large well taking its supply from the local artesian zone, which well is said to supply about 20 per cent of the total water used by the city. As full description and drawings of these details of the water supply system are on file in your office, together with the records of operation, it is unnecessary to describe these features at this place.

Time Required for Raw Sewage to Reach Water Supply Intake.

A municipal water supply taken from a small and shallow land-locked bay and only some 3,300 feet in direct line from the outfall of a large domestic sewer discharging untreated sewage into the bay constitutes, on the very face of things, a very

hazardous situation. It was therefore decided to determine by appropriate test the minimum time required under favorable conditions for the raw sewage to reach and enter the water supply intake. For this purpose there was procured fifty pounds of uranine, a very strong fluorescent aniline dye, extremely soluble in water and coloring the water an intense grass green color by reflected light and red by transmitted light.

The uranine was fed into the outfall of the sewer at 9:30 a. m., on September 18, 1913. The wind at the time was a light breeze from the south, blowing diagonally off shore.

To understand the observations to be described, it must be remembered that the water near the shore end of the ore dock was originally quite shallow. The 10 foot contour lies at about 500 feet from shore and the 15 foot contour lies at about 1,200 feet. Therefore, to aid navigation, a slip about 20 feet deep and 100 feet wide has been dredged on each side of the dock extending along its entire length. The sewer discharges into the head of the slip on the westerly side of the dock. There is thus formed an artificial canal extending along the westerly side of the dock which not only serves as a boat slip, but at the same time is admirably adapted to conduct the sewage from the outfall at its shore end outward to the end of the dock. This process is aided by the situation west of the ore dock. On the westerly side there is "made land" for a few hundred feet formed by a filling of slabs, edgings and other sawmill refuse. Beyond this there is a log pocket defined by a floating log boom. The ore dock itself offers considerable obstruction to currents of water passing under it for only a short distance, due to considerable filling of stone. Beyond that there is practically little obstruction.

The observations with uranine showed that the passage of the sewage down the slip was surprisingly rapid. The current from the boat slip from the sewer was ill defined a short distance, the colored sewage largely eddying around toward the southerly corner of the slip. A well defined current was then formed diagonally across and toward the ore dock. The farther limit of the color line moved outward along the dock at a rate of about 600 feet per hour for the first hour, and thereafter at a slightly diminishing rate and reached to the end of the dock about 2:00 p. m. There are 157 ore pockets on each side of the dock, their width being 12 feet center to center, so that the ore pockets cover a dock length of 1,884 feet. The first ore pocket is about 125 feet farther out from the shore line than the end of the sewer. Beyond the main ore dock there is about 100 feet of dock structure and fill, so that the entire dock structure extends 2,100 feet beyond the sewer outfall. The colored sewage traveled that distance within five hours.

The coloring was discernible for a short distance on the easterly side of the dock, it having worked through the structure with ease.

The observations up to 2:00 p. m. of September 18, were made by the writer and Mr. W. E. Miller, engineer in the hydraulic department of the Railroad Commission. A prominent citizen of Ashland was present with the writer and Mr. Miller on the end of the ore dock at 2:00 p. m. September 18, and observed the effect of the green dye extending to that point and easterly of the dock.

Mr. Miller continued the observations after 2:00 p. m. and during the morning of the next day. In the afternoon of the 18th, between 3:30 and 4:00 o'clock, Mr. Miller made an effort to trace from a boat the coloring matter further towards the waterworks intake, it having moved in that direction. The coloring matter did not reach more than 100 feet eastward of the ore dock nor much beyond its end during the first afternoon. On the morning of the day following, the color had all moved southwesterly along the shore. The bay was tinged with the dye for a distance of more than a mile along the shore and for approximately one-half mile out. It had all disappeared from the vicinity of the ore dock and boat slip. The change was evidently due to southwesterly current in the bay along the Ashland side. The sewage current traveled about half way to the mouth of the water supply intake in five hours and but for conflicting currents would have probably reached the intake in ten or twelve hours.

Thus we have the remarkable demonstration that under favorable conditions of current, which moreover must frequently prevail in the summer months, the raw sewage can reach the intake in less than half a day. Thus, under certain conditions, sewage that leaves an Ashland home in the morning may return in the water supply before supper time; diluted, it is true, and run through sand filters at the waterworks, but nevertheless but a few hours removed from its original condition as raw sewage.

The general conditions in Ashland Bay of water intake and sewer outfall convinced the writer that the amount of dilution of the sewage by the water of the bay was at times relatively small and that the time required for direct communication between the sewer and water intake was very short. The demonstration with uranine showed, however, a possible time of direct passage much shorter than had been thought possible; in part, at least, the brevity of this interval is due to the fact that the slip excavated along the ore dock acts as an extension in canal form of the Stuntz avenue sewer toward the neighborhood of the water intake.

Temperature Observations in the Bay: It must not be inferred from the preceding paragraph that the sewage can reach the water intake within ten or twelve hours at all times of the year. In winter the bay is covered with ice, and the natural currents are probably reduced in intensity. In addition to this, the temperature of the water and the bay is nearly uniform, varying but slightly from the freezing point either at top or bottom.

When the ice breaks up in the spring the water begins to warm, which is a process extending from the surface downward. The surface and the upper layer of the water throughout the bay may get quite warm during early summer while the lower layers are still quite cold. At such times there is a very considerable resistance to the mixing of the surface layers with the deeper colder waters, and at such times the diluted sewage would tend to remain in the surface layers of the water of the bay and consequently only reach the water intake after considerable delay. At the same time, however, the amount of dissolved oxygen in the lower layers of water remains very small and may become too lean for proper action of the filters, as the nitrifying organisms in the filter beds can not perform their work of purification if the air supply dissolved in the water becomes too low.

As midsummer comes the above described distribution of temperature passes away, and the temperatures of top and bottom layers become almost identical and both are quite warm. Under these conditions there is no resistance to the mixing of the surface with the deeper waters and the possible time required for the sewage to reach the water supply is reduced to a minimum; also, as above explained, the filter beds may at this very time be in the very poorest condition for active work of purification. Unfortunately this time also closely coincides with the times at which typhoid fever patients begin to seek the local hospitals in greater numbers and, in general, coincides with the time at which typhoid seems to spread and to propagate itself most readily.

In bodies of water of considerable depth, say exceeding 50 or 60 feet, the bottom waters never warm up during the summer sufficiently to approach anywhere near the surface temperature. In such cases a very considerable resistance to mixing of the surface with the deep waters persists throughout the midsummer months.

A violent storm often sweeps the bay of Ashland in such manner as to stir up the water thoroughly and put in suspension quantities of mud and clay.

The fact that the bottom temperatures in Ashland Bay attain substantially to the surface temperatures during the summer and, hence, that all resistance to the downward movement of polluting matter disappears at such times is shown by temperatures taken September 7 and 8, 1913, at stations 1, 2, 3 and 4, as marked on the map, Plate I. The temperatures were taken by a deep sea thermometer kindly loaned by the State Geological and Natural History Survey. The readings are given in degrees centigrade. The highest temperature recorded is equivalent to 67.1° Fahrenheit. On September 2, 1913, several surface temperatures were taken by the writer at various mid-bay points and found to range from 71° to 74° Fahrenheit.

The temperatures presented in this table also indicate the small amount of exchanges of water between Chequamegon Bay and Lake Superior, for at the time the temperature of the bay at stations 1 to 4 ranged between 17.8° C to 19.5° C, or from 64° F to 67° F, the water in the main lake was icy cold, as it always is.

TABLE I.

TEMPERATURE OF THE WATER IN CHEQUAMEGON BAY AT VARIOUS DEPTHS IN METERS

TAKEN WITH DEEP SEA THERMOMETER

On September 7 and 8, 1913.

Temperatures are given in degrees centigrade.

Station No.	TEMPERATURES AT Surface.	2 meters.	3 meters.	Bottom.
September 7, 1913.				
1	19.5° C	18.5°	18½°	18° (6M)
2	18.3	18.3	18.1	16.7 (8.1M)
3	18.	17.7—	17.2	15.8 (9½M)
4	19.	18.4	18.3	17.0 (7M)
September 8, 2 p. m.				
1	18.6°	18.6°	18.5°	18.0° (7½M)
2	18.3	18.3	18.3	16.8 (8M)
3	17.8	17.8	17.9	14.5
4	18.2	18.2	18.0	16.2 (7M)

As is seen from the map of the bay (Plate I) station 1 is at the mouth of the intake in 20 feet of water; station 2 is in mid-bay over a mile outward from the intake and in 26 feet of water. Station 3 is two miles outward from the intake and located in 31 feet of water. Station 4 is behind the government breakwater and in about 23 feet of water.

BACTERIOLOGICAL EXAMINATION OF THE WATERS OF CHEQUAMEGON BAY.

Samples of water from the top and bottom were taken at the same stations on the same date and subjected to sanitary and bacterial examinations by the Wisconsin State Hygienic Laboratory. The results are given in Table II (p. 15).

The analyses show that on the dates named the water at all the stations was so selected as to prove that the entire bay is contaminated and that little preference could be given to the water from one part over that from another part of the bay. The samples taken from the neighborhood of the present water supply intake (station 1) are, on the whole, somewhat worse than the others and, as shown by the uranine tests, much more liable to sudden change in quality; but any one of the stations named

would be an unsatisfactory location for the intake of a municipal water supply.

Filtration of the Water Supply.

Reports on file with the Railroad Commission give details of the covered sand filters used at Ashland in the treatment of the supply taken from the bay. Extensive comments could be made by the writer upon the lack of weirs and other operating devices for the control and inspection of the filters, and for the need of expert daily inspection of the work of the several filters, and of the bacteriological examination of the untreated water and of the filtered supply from each filter bed. But, in the opinion of the writer, all such matters are of secondary importance in connection with the water supply of a city of the size of Ashland, and especially after due consideration is given to its commercial and industrial present and future. Considering human affairs as they must ordinarily run, it is quite visionary to expect a good water supply for the city of Ashland to be made from the polluted waters of the bay by filtration or chlorination or both or by any other artificial treatment. It is, of course, theoretically possible to purify the water of Chequamegon Bay so as to be suitable for domestic needs. Cities of a population of several hundred thousand are able to command the services of experts and to enforce such military discipline among their employes that filtration and similar work can be operated with practically no lapse in efficiency. In America it has been found to be very generally the case that the smaller cities are unable to maintain that discipline and expert daily and hourly supervision that is absolutely essential to the operating of water-treating plants. For that reason, water supply engineers of high standing refrain from recommending such plants where a safe supply is available from other sources.

TABLE II.

CHEMICAL TESTS AND BACTERIOLOGICAL EXAMINATION BY WISCONSIN HYGIENIC LABORATORY OF WATER TAKEN FROM SURFACE AND BOTTOM OF CHEQUAMEGON BAY, AT STATIONS 1 TO 4 ON SEPT. 7 AND 8, 1913.

Chemical tests expressed in parts per million and bacterial count in number per cubic centimeter.

Station number	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4
Top or bottom	Top	Bottom.	Top.	Bottom.	Top.	Bottom.	Top.	Bottom.	Top.	Bottom.	Top.	Bottom.	Top.	Bottom.	Top.	Bottom.
Date 1913—September	7	7	8	8	7	7	8	8	7	7	8	8	7	7	8	8
Chlorine	2.2	2.0	2.2	1.9	1.8	2.0	1.8	1.6	1.8	1.9	1.4	1.8	1.6	***	1.6	2.4
Total solids	72	64	70	62	70	64	68	74	60	72	60	78	42	.....	58	60
Hardness	51	51	60	51	51	48	51	56	43	51	48	53	41	.....	48	58
Alkalinity	42	41	43	44	42	43	43	42	42	42	42	41	42	.....	42	42
Number bacteria /cc incubated at 22°C	1,373	1,333	1,500	1,200	3,500	2,666	1,000	1,400	1,600	3,500	600	1,000	53	***	5,000	450
Number liquefying bacteria /cc	4	4	2	5	27	666	3	12	35	29	70	10	0	.....	28	1
Number bacteria /cc growing at body temp	750	2,250	850	750	1,250	700	1,100	825	250	150	650	650	175	.....	350	90
Number acid producing bacteria /cc	0	20	6	15	25	0	6	1	1	1	0	2	0	.....	0	1
Colon bacteria in 1/10 cc	0	−	0	0	0	0	0	+	0	+	0	0	0	.....	0	0
Colon bacteria in 1 cc	0	+	0	+	0	+	+	0	0	0	0	0	0	.....	0	0
Colon bacteria in 10 cc	0	+	0	+	0	0	0	0	0	0	0	0	0	.....	0	+
Number species /cc	1	2	3	3	2	2	3	3	2	2	3	2	2	.....	3	2
Interpretation	*	+	*	+	*	+	*	+	*	+	*	*	*	... .	*	+

*Water contaminated.
+Water polluted.
***Bottle containing sample broken in shipment.

During the past thirty months, 177 separate tests of Ashland water have been made by the state hygienic laboratory; over ninety of these examinations disclosed a contaminated or polluted water supply. These examinations have been made at all seasons of the year and under all possible conditions of supply; and yet the last examination on November 17, 1913, shows a pollution fully as bad if not worse than that found two years ago.

The report of John W. Atwood, Dabney H. Maury and Daniel W. Mead, recently made on the water supply of Rockford, illustrates the opinion expressed above. They say in their report:

"It should be fully understood and appreciated that any supply that demands filtration as an adjunct must depend for its purity on constant care and vigilance by experts thoroughly conversant with such operations, and that any carelessness or lack of vigilance will result in a temporary reduction in quality which may, if it occurs at a critical time, result in contamination, with possible resulting sickness and death among its users.

"The best results with any public work are always secured by concentrated rather than continuous effort and a water supply which is normally pure and which must simply be guarded by proper construction in order to ensure its constant delivery to the consumer in potable condition, is much to be desired above any supply that demands continuous vigilance as the price of safety."

These words apply in force to the situation at Ashland. As previously shown in this report, there is a time previous to mid-summer when the surface waters of the bay are warm, but the bottom waters are still cold. As long as this condition holds there is a certain resistance to the entry of the raw sewage to the lower waters but, at the same time the water entering the intake is either low in oxygen or free from it altogether, so that the filters are scantily supplied with nitrifying organisms and are at low ebb in their power to purify. Quite suddenly, however, in mid-summer the entire body of water in the bay becomes warmed, and the intake waters may in consequence become suddenly much worse; later in the year, say in October, the surface waters become cold and during the first severe storm the entire body of water overturns, the bottom water coming to the top and the top waters sinking to the bottom. To have filters scientifically prepared to meet this change in demand, would require the water company to have on hand and under alert discipline experts which no city of that size can hope to have or to retain. This is but one illustration of one of the numerous changes in circumstances for which expert supervision of filter plants must provide.

TABLE III.

TEN BACTERIAL EXAMINATIONS OF FILTERED WATER FROM ASHLAND, WISCONSIN.

SELECTED FROM OVER ONE HUNDRED SUCH EXAMINATIONS AND INTENDED TO SHOW THAT POLLUTION IS NOT CONFINED TO A CERTAIN SEASON OR TO A CERTAIN TREATMENT.

Source ..... Date.....	Rsvr. 12/18/10	Tap 12/18/10	Tap 1/23/11	Rsvr. 8/27/11	Rsvr. 12/4/11	Tap** 1/5/13	Old flt. 11/17/13	New flt. 11/17/13
Number bacteria per cc. in gelatine incubated at 22° C.....	8,240	274	112	226	18	33	180	365
Number liquefying bacteria per cc...	80	8	3	2	8	0	24	24
Number species of bacteria per cc...	6	3	4	3	2	3	8	7
Number bacteria per cc. growing at body temperature	25	3	.....	290	2	3	1	5
Number acid producing bacteria per cc.....	0	1	0	.....	2	0	2	0
Colon bacteria in .1 cc.	0	0	0	0	0	0	0	.....
Colon bacteria in 1 cc...	0	0	0	0	+	0	0	+
Colon bacteria in 10 cc...	+	+	+	+	+	+	+	+
Interpretation.....	*	*	*	*	*	*	*	*

*Water polluted.
**Water filtered and treated with hypochlorite of lime.

Abbreviations; Rsvr. = filtered water from reservoir.
Tap. = filtered water from house tap.
Flt. =filtered.

TABLE IV.

BACTERIOLOGICAL EXAMINATION OF THE UNTREATED WATER AT ASHLAND AT VARIOUS DATES.

(Scores of such examinations show similar results.)

Date collected.	5/21/11	10/11/11	1/6/13	5/23/13	9/7/13	10/12/13
Number bacteria per cc. in gelatin incubated at 22° C.....	1,320	1,133	950	1,550	1,333	530
Number liquefying bacteria per cc	2	2	33	24	4	35
Number species of bacteria per cc.	4	3	3	4	2	5
Number of bacteria per cc. growing at body temperature.....	210	150	6	22	2,250	9
Number of acid producing bacteria per cc.....	10	3	.....	11	20	14
Colon bacteria in .1 cc.....	.....	0	+	tr	**	+
Colon bacteria in 1 cc.....	+	0	+	+	+	+
Colon bacteria in 10 cc.....	+	0	+	+	+	+
Interpretation.....	*	**	*	*	*	*

* Water polluted.
** Water contaminated.

Tables III and IV give a few results of bacteriological examinations of filtered and untreated water at Ashland made during the past three years. These are selected from 177 examinations made of Ashland water by the state hygienic laboratory. They

are inserted here merely to show that the filtered water is polluted, not occasionally, but often, and that its state of pollution is not confined to any particular season or year. They show that an epidemic of typhoid has been an ever present danger at Ashland in the past and that escape therefrom in the years to come must be looked upon as a fortunate providential dispensation.

The maximum daily pumpage at Ashland was reported to the writer to be 1,300,000 gallons per twenty-four hours. The total area of the filter beds is ⅔ acre, which gives a maximum rate of filtration of less than 2,000,000 gallons per day per acre. This rate is certainly moderate and there exists no need of greater filter area. The writer has examined 52 bacteriological tests of water from Ashland made by the state hygienic laboratory during the calendar year 1913. The "raw" or unfiltered water was found "good" on two occasions, and contaminated or polluted at other times; the tests showed a very great variation in the quality of the "raw" water. The samples of filtered but untreated water were usually unsafe. The samples of filtered and treated (with "chlorinated lime" or hypochlorite of lime) showed much improvement over the filtered but untreated water, but some were still polluted. It is interesting to note that all of the samples of filtered and treated water furnished by the Ashland Water Company were "good".

When everything is considered, it is highly visionary to expect that good potable drinking water suitable for a city water supply can be continuously derived by filtration and chlorination of the water of Ashland Bay. Such an expectation is actually and practically beyond reasonable hope, and therefore it seems idle to the writer to discuss better equipment of the filters and the hiring of suitable experts to watch and operate them. It would only mislead the people of Ashland if anything here stated should lead them to believe that safety is practically attainable in that direction.

Removal of Sewage From the Bay.

There is no easy or practical means of conducting the sewage of Ashland and Washburn to points that would leave the bay free from contamination. Fish creek and the storm water sewage from Ashland would still leave the bay anything but a pure source of water supply. But in any case such a proposal seems impossible of realization for other important considerations. The future growth of Ashland must depend upon the development of suitable industries which will be only too glad to take possession of the excellent and cheaply available sites along its water front when in the future the labor market and other conditions at Ashland take a favorable turn for manufacturing growth. Such industries will undoubtedly wish free access to the waters of the bay for industrial use and as a dumping ground for their in-

dustrial waste. It would be an undesirable handicap to the commercial growth of the city to undertake to prevent the contamination of the waters of the bay with industrial sewage. In case pulp mills and paper mills develop and grow in this location, for which conditions seem to be very favorable, the waste from these mills, even after treatment, would induce serious complications and might render it quite impossible to properly filter the water supply. The waste from paper mills is one that interferes most with the maintenance and operation of filters, and yet the use of the bay as a receptacle for this waste seems to be one of the inevitable results of the industrial growth of the city. It seems absurd, therefore, to attempt to set up any standard of purity of water in Chequamegon Bay; it would be a price too heavy to pay for the loss of commercial expansion of the community.

NEW SOURCES OF SUPPLY.

There are only two practicable sources of water supply for Ashland in addition to the present supply from the bay, namely: a supply taken from the main body of Lake Superior, or a supply taken from underground sources. A supply from Lake Superior must be dropped from consideration for the present. When the community reaches a strength of 50,000 or 100,000 inhabitants such a source may well, and probably will, come under consideration. It constitutes the ideal and ultimate source of supply for any large community in this location. It is regrettable that the distance to the lake prohibits its immediate availability. The remaining possibility is a supply from an underground source, and such possibility should be given most careful consideration.

Ground Water Supply: The local conditions at Ashland are entirely favorable for expecting that a suitable groundwater supply can be developed at reasonable cost. The "red clay" soil seen everywhere about Ashland might give the impression that deposits of sand and gravel are non-existent. This superficial indication is, however, quite misleading. The red clay slopes and hills about Ashland contain many buried beaches of sand and gravel of various extents, many of which, in fact, are old shore lines of Lake Superior. Many of these are known to be water bearing, and the frequency of flowing springs in the valleys near Chequamegon Bay indicate that groundwaters are abundant to more than the average extent.

There are known to exist at Ashland not only upper zones of underground waters in old beach gravels, etc., but there are deep zones of flow extending to great depths in the local Lake Superior sandstone. One of the deepest borings in the state is located at Ashland and has explored thoroughly the deeper zones of flow of underground waters. However, the deeper zones of flow are too highly mineralized to permit consideration for a municipal supply.

TABLE V.

MINERAL ANALYSIS OF WATER FROM ASHLAND, WISCONSIN.
Results expressed in parts per million.

	Chequamegon Bay.				River.	Wells in Lake Superior, red sandstone.					
	1	2	3	4	5	6	7	8	9	10	11
Depth, feet	.....	.....	.....	.....	.....	157	200	.....	1,435	2,000	2,800
Silica (SiO_2)	2.9	4.8	3.6	4	15.2	9.4	15.4	2.8	tr	.....	.....
Aluminum and iron oxides ($Al_2O_3+Fe_2O_3$)	1.0	1.2	5.2	1.6	1.7	1.0	2.9	6.4	.....	.....	.....
Aluminum oxide (Al_2O_3)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Iron (Fe)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Calcium (Ca)	18.1	20.2	19.6	14.1	24.1	24.6	34.3	53.3	148.6	82.0	119.5
Magnesium (Mg)	2.9	5.9	3.9	4.4	12.2	8.7	27.7	31.7	80.9	24.7	34.5
Sodium (Na)	2.2	13.8	9.2	11.1	1.6	32.0	32.2	34.6	180.0	197.0	165.8
Potassium (K)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Carbonate radicle (CO_3)	34.5	44.9	30.4	28.9	66.3	58.4	121.7	68.0	75.9	171.7	255.7
Bicarbonate radicle (HcO_3)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sulphate radicle (SO_4)	.....	.....	13.9	5.2	.....	.....	.....	18.7	84.7	20.5	13.9
Chlorine (cl)	3.6	21.2	14.2	17.1	2.5	0.5	34.8	145.6	623.6	303.0	255.1
Organic matter	.....	15.6	.....	.....	15.6	.....	.....	.....	tr.	.....	.....
Total solids	65.2	112.0	100.0	86.4	123.6	134.6	269.0	361.1	1193.7	798.9	844.5

1. Chequamegon Bay. Sample taken through ice, analyst G. M. Davidson, December 1897.
2. Chequamegon Bay. City water supply. Analyst G. M. Davidson, August 1902.
3. Chequamegon Bay. City water supply. Analyst Milwaukee Ind. Chem. Institute, February 23, 1909.
4. City water direct from mains. Analyst Dearborn Drug & Chemical Company, September 13, 1905.
5. Water from junction of White and Bad rivers at Odanah. Analyst G. M. Davidson.
6. Well at railroad shops, C. & N. W. railway, ¼ mi. northeast. Analyst G. M. Davidson, December 1897.
7. Well at railroad shops, C. & N. W. railway. Analyst G. M. Davidson, November 1899.
8. Well at Ashland. Analyst Milwaukee Ind. Chem. Institute, February 23, 1909.
9. Well of Ashland Iron & Steel Company, 2,800 ft. deep. Analyst Chemist Iron & Steel Company. Sample taken at 1,435 ft.
10. Same as 9, except sample taken at 2,000 ft.
11. Same as 9, except sample taken at 2,800 ft.

TABLE VI.

BACTERIOLOGICAL AND SANITARY EXAMINATION OF WATER FROM PRENTICE SPRINGS, ASHLAND, WISCONSIN, BY WISCONSIN HYGIENIC LABORATORY.

	Spring No.1	Spring No.2	Spring No.3	Spring No.4	Spring No.6	Spring No.2
Date.	7/20/11	7/20/11	7/20/11	7/20/11	7/20/11	9/28/13
Nitrogen as:						
Free ammonia	0.028	0.024	0.040	0.028	0.020	tr
Albuminoid ammonia	0.104	0.100	0.136	0.132	0.104	0.020
Nitrites	0.008	0.014	0.010	0.006	0.007	0.004
Nitrates	0.05	0.02	0.03	0.04	0 04	0.14
Chlorine	39.2	48.2	1.2	6.1	5.6	51.8
Sulphates						
Iron						
Oxygen consumed	0.9	1.4	0.9	0.7	1.1	0.85
Total solids	225	258	182	176	152	264
Hardness						
Alkalinity	106	105	122	138	116	118
Number bacteria/cc:						
Incubated at 22°C	77	23	750	490	12	3
Liquefying	2	0	0	220	2	0
Different species	4	2	3	4	2	1
Growing at body temp	0	0	56	54	2	3
Acid producing	0	0	20	6	0	0
Colon in 1/10 cc						0
1 cc	0	0	†	0	0	0
10 cc	0	0	†	†	0	0
Remarks	*	*	†	†	*	**

* Water good bacteriologically.
† Water contaminated.
** Water very good.

Temperature of water flowing from Spring No. 2, September 2, 1913, was 44.6° Fahrenheit.

Tables V and VI give information concerning the quality of groundwaters at Ashland. The analyses given in Table V were collected by the Wisconsin Geological and Natural History Survey. This table is interesting as containing the analysis of a sample of water from Chequamegon Bay taken through the ice in December, 1897, and also analyses of water from the city water supply made August 1902, September 1905, and February 1909, the latter indicating contaminated water. Analyses 6 and 7 of Table V are of water from a well at the Chicago & North Western Railway shops, and give a good indication of the mineral content of wells from 150 to 200 feet in depth. Columns 9, 10, and 11 of Table V give interesting results of analyses of samples of water taken at various depths in the deep boring of the Ashland Iron and Steel Company, now the Lake Superior Iron and Chemical Company. This well extends 2,800 feet into the Lake Superior Red Sandstone, and is one of the deepest borings in the state. The mineral content, especially that of common salt, reaches remarkable proportions at a depth of 1,435 feet. The record of this deep boring shuts out any con-

sideration of the possibility of artesian water from a deep source at Ashland.

On the westerly edge of the corporation limits of Ashland, and just north of the right of way of the Chicago, St. Paul, Minneapolis & Omaha Railway, there is a group of several flowing springs, known locally as Prentice Springs. The springs were briefly reported upon and samples of water taken in July, 1911, by P. B. Turner of the engineering staff of the Railroad Commission. Following Mr. Turner's notation, I have numbered these springs 1 to 6, beginning with the most easterly spring, namely that owned or used by the Lake Superior Iron and Chemical Company (formerly known as Ashland Iron and Steel Company). Springs Nos. 2, 3, 4 and 5 have long been neglected and the surroundings permitted to deteriorate. Spring No. 2 flows from the top of a five-inch pipe which rises to about five feet above the ground. The spring was discharging at the rate of 139 gallons per minute when measured by the writer on September 2, 1913. The writer could find no one who could tell the approximate distance to which the well casing had been sunk into the spring, and it was impossible to determine the depth by sounding, as the spring has been neglected for years and small boys had amused themselves by throwing rubbish down the open well casing and partially obstructing the pipe. The spring is now protected from further destruction by a wire cage placed over the mouth of the well casing, so that rubbish can no longer be thrown into the spring. The bacteriological and chemical analyses of the water of the various springs made by the State Hygienic Laboratory in 1911, are given in Table VI. The only analyses having value from the sanitary point of view are those of the waters of springs numbered 1, 2, and 5, as the other springs are open natural springs without any protection against the entrance of decaying animal and vegetable matter. The last column of the table gives the result of chemical and bacteriological examination of samples taken from Spring No. 2 on September 28, 1913, for the purpose of the present investigation. This analysis should give satisfactory information concerning the character of the underground waters at this location, as the spring, although neglected, is now fairly well protected against the entrance of rubbish by means of a wire cage of 2½ to 3 inch mesh placed over the mouth of the discharge pipe. From the analysis of the waters of this spring given in the last column of Table VI it is seen that the water is practically sterile bacteriologically. The mineral content of the spring water is seen to be 264 parts per million total dissolved solids, of which 85.4 parts per million is in the form of common salt, leaving about 179 parts per million of dissolved mineral matter in the form of salts of calcium and magnesium, and the other constituents. The common salt in this water undoubtedly comes from the Lake Superior sandstone, which at greater

TABLE VII.

COMPARATIVE ANALYSES OF GROUND WATERS USED FOR CITY SUPPLY BY WISCONSIN MUNICIPALITIES. RESULTS GIVEN IN PARTS PER MILLION.

	N. Fond du Lac.	Depere, E.	Depere, W.	Darlington.	Wauwatosa.	River Falls.	Oconomowoc.	Monroe.	Beloit.	Columbus.	Burlington.	Rockford.	Wausau.	White Rock.	Madison.	La Crosse, Well 1.	Manitowoc.	Prentice Spring.
Depth in feet	400	840	800	21	1,357	504	824	30	100	74	1,008	1,500	135	Spri'g	751	120	20	?
Calcium	113.46	62.60	79.80	78.69	146.66	28.18	60.05	98.99	64.77	63.95	80.27	95.56	18.00	63.10	85.47	66.71	.....	.....
Magnesium	31.76	46.98	39.46	45.76	26.23	63.62	33.98	35.46	28.96	36.84	25.24	60.53	5.45	30.84	36.59	21.98	.....	.....
Sodium	31.95	20.61	12.73	4.71	9.51	.....	7.49	.....	.....	4.46	9.07	2.39	.....	8.9	8.67	13.84	.....	.....
Potassium	7.60	16.21	11.22	0.75	5.45	.....	.....	.....	.....	.....	4.24	1.76	.....	.....	1.81	5.36	.....	.....
Potassium nitrate	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5.8	.....	.....	.....	.....
Carbonate radicle	140.57	116.15	85.20	.....	.....	69.06	184.03	229.96	162.49	186.99	.....	.....	.....	.....	.....	.....	.....	.....
Bicarbonate radicle	.....	69.41	165.29	393.06	248.52	.....	.....	.....	.....	.....	266.17	.....	.....	.....	.....	10.2	.....	.....
Sulphate radicle	117.07	104.84	24.10	3.96	230.33	126.76	.....	9.89	10.02	8.21	47.49	8.39	2.91	172.8	374.91	305.8	.....	.....
$P\,O_4$	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.69	0.25	53.7	5.66	2.47	.....	.....
Chlorine	98.97	21.67	12.25	4.15	8.71	.....	9.78	.....	.....	0.83	4.77	.....	.....	38.8	3.03	4.00	8	51.8
Alkali chlorides	.....	.....	.....	.....	.....	.....	.....	47.37	7.35	.....	.....	.....	3.76	.....	.....	.....	.....	.....
Alkali sulphates	.....	.....	.....	.....	.....	.....	.....	21.72	12.48	.....	.....	.....	3.76	.....	.....	.....	.....	.....
Ferric oxide	.....	.....	.....	.....	.....	18.13	.....	.....	.....	.....	.....	2.56	.....	.....	.....	.....	.....	.....
Silica	6.94	7.27	30.71	10.43	8.89	34.20	.....	.....	.....	.....	6.84	9.23	.....	13.0	.....	tr	.....	.....
Iron	0.13	0.67	0.81	0.53	.....	.....	.....	.....	.....	.....	0.16	.....	.....	0.1	1.13	tr	0	.....
Aluminum oxide	0.94	0.92	0.94	11.29	.....	53.35	.....	.....	.....	0.85	0.51	1.03	14.70	1.0	tr	tr	.....	.....
Oxides	.....	.....	.....	.....	.....	.....	.....	6.84	1.71	.....	.....	.....	.....	.....	.....	.....	.....	.....
Alkali carbonates	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	22.91	.....	.....	.....	.....	.....
Total	549.41 (4)	467.34 (1)	457.53 (1)	553.36 (1)	684.33 ?	393.30 (5)	295.32 (2)	450.25 (2)	287.79 (2)	302.15 (8)	444.78 (3)	473.50 (3)	135.76 (3)	388.0 (7)	517.30 (1)	361.0 (5)	264.0 (6)	264.0 (6)

(1) Analyst—W. W. Daniels.
(2) " —Chemist, C. M. & St. P. Ry.
(3) Analyst—E. G. Smith.
(4) " —W. S. Ferris.
(5) Analyst — V. Lenher.
(6) Wisconsin Hygienic Laboratory.
(7) Analyst—O. Textor.
(8) " —H. E. Smith.

depths furnishes a strong brine. The spring water is harder than the water from Chequamegon Bay, but is not to be classed as more than moderately hard; in fact, the water is relatively soft as ground waters usually run. Table VII gives analysis of groundwaters from a number of places in Wisconsin used for municipal supply. For the purpose of comparison, an analysis of the well known White Rock water of Waukesha, and the artesian supply of Rockford, Illinois, is added to the table. Most of these waters are two or three times as strong in dissolved minerals as Prentice Spring water.

A discussion of the data presented by the tests of the Prentice Spring water given in Table VI shows that the undeveloped springs and those cased only to shallow depths furnish relatively soft water, but a small quantity. The springs artificially developed by insertion of deep casings furnish somewhat harder water, and a much greater quantity. All of this indicates that there probably exists at this point an important zone of flow of underground waters in gravel deposits on top of the bed rock of Lake Superior sandstone, or possibly within the upper broken and cracked portion of the sandstone itself. The bed rock in this region, usually called the Lake Superior sandstone, was during glacial times covered with hundreds or thousands of feet of ice. This enormous moving load tended to crack and fracture the upper portion of the sandstone in haphazard manner. This fractured upper portion of the rock is often a most favorable zone of flow for underground waters. Whether the flow of underground waters at Prentice Springs lies primarily within the upper fractured zone of sand rock or within old beach, or glacial gravels deposited on top of the same, or in both zones, can only be determined by investigations especially directed to that end.

The Standard to Be Applied to a Municipal Water Supply.

A perfect water supply is worth all its costs. There is no financial standard by means of which to measure the limit of human effort that should be expended in attaining it. The safety and permanence and growth of the dependent civilization is too important to permit expression in ordinary units, or to be reduced to the basis of profit or interest on investment, or to be viewed in any common way as solely a commercial or industrial enterprise or utility. The example of Rome has been the guide to all the cities of modern cultured nations. Since that day the water supply of a city has been the most important and usually the most expensive of its public works. The abundance and purity of the water supply has determined the growth and permanence of the civic communities and has always been a determining factor in selecting from the group of cities struggling

for commercial and industrial supremacy, the few that should finally be awarded leadership.

The great water supply project of New York city, whose new reservoir in the Catskills requires a conduit of 92 miles in length and a cost of new supply approximating $200,000,000; the equally well known project of Los Angeles just completed at a cost of over $25,000,000 conducting the water a distance of 234 miles; and the new project of the city of Winnipeg, diverting the waters of Shoal Lake to the city, a distance of 90 miles at a cost of $28,000,000; these are some modern instances of the fact that commercial profit and cost must be subservient to necessity in the attainment of an ample and suitable water supply.

It is unnecessary to elaborate upon the fact that a perfect water supply is the guardian and producer of wealth, or to explain in what manner a penalty in wealth an development must be paid as the price of a supply that falls short in any respect from what it might be.

The qualities that characterize a perfect water supply may be summarized as follows:

Such a supply must be:

1. Safe and wholesome from a sanitary standpoint—an imperative quality.
2. Soft and free from incrustants.
3. Free from corrosive ingredients.
4. Free from disagreeable tastes and odors.
5. Free from suspended matter.
6. Free from coloring matter.
7. Low in temperature.
8. Uniform in temperature.

These, however, cannot be used to rate a water by mere preponderance of good qualities. A water may be condemned by extreme departure from normal in any one of the desirable qualities; on any other basis sea water would rank almost as high as well water. Instead of attempting a numerical process of weighting the qualities of water, it is better to take due note of all and express final judgment in terms similar to the following:

1. Excellent.
2. Good.
3. Tolerable.
4. Poor.
5. Very unsatisfactory.

Applying this method to the available supplies at Ashland one may express judgment as follows:

Lake Superior—Excellent.

Underground water—Good to Excellent.

Chequamegon Bay, (treated)—Poor.

Chequamegon Bay, (unfiltered)—Very unsatisfactory.

The above classifications refer to quality only.

Specific Recommendations.

It is the belief of the writer not only that, as a practical matter, a satisfactory water supply cannot be made by the filtration of water from Chequamegon Bay, but that the likelihood of obtaining an excellent supply of ground water for municipal needs at moderate costs is exceedingly promising. The localities suitable for prospecting for underground waters are the northerly sloping lands near the ridge just south of the city, where old beach gravels may be struck at depths above 200 feet, and the obviously favorable location near Prentice Springs. The latter location should first be investigated. I recommend that several six or eight inch test wells be driven to a depth of 150 to 200 feet, located on the land or highway just south of the right of way of the Chicago, St. Paul, Minneapolis & Omaha Railway, and south of Prentice Park. The object is to see if the water bearing gravels or other line of underground drainage can be intercepted at this point. Careful logs of all material encountered in the sinking of these test wells should be kept and after the test wells are constructed and provided with proper strainers extending as far as practicable into the water bearing material, the wells should be subjected to extensive pumping tests to determine the capacity of the wells and the effect of pumping on the normal ground water level in neighboring wells. In case suitable water-bearing gravels or rock are not struck at the location named, then the tests should be transferred to test wells sunk in Prentice Springs themselves.

If a suitable battery of wells can be developed south of Prentice Springs, vacant land exists in that locality so that a sufficient quantity can be purchased or controlled to permanently protect from contamination the underground supply without interfering with the normal growth of the city. Any land required and used for that purpose would still be available for agriculture or for a public park.

The distance of Prentice Springs to the built-up portion of the city is about one mile. The expense of supply main and pumping plant and recovery works at the new location can readily be estimated after the ground water explorations have been completed. The cost would certainly exceed $75,000.

The expense of test boring and experimental pumping would amount to from $2,500 to $4,000. This work should be carried out under the advice and supervision of the engineers of the Railroad Commission.

It is not necessary to discover a reserve of groundwater supply for a future city of 50,000 or 75,000 or 100,000 inhabitants. When Ashland is assured of a population of this magnitude, the expense of an intake in Lake Superior will no longer be an obstacle and a final supply of ideal quality can ultimately be developed from that source.

CONCLUSION.

The above report shows that the city of Ashland is almost in constant danger from the quality of its present water supply. When human life and human happiness are at stake in the degree shown by the facts in the present case, one who feels his individual responsibility in the premises must state clearly and unequivocably the situation as it actually exists so that the local authorities may fully appreciate the needs of their people. I feel that I would fail in my duty if I did not make clear that it is quite visionary to expect any improvement in present conditions by better operation of the filters or by chlorination of the water. If an expense of about $10 per capita cannot be incurred to remove this danger in the manner indicated in the report, there remains nothing that I can recommend for which I can take the responsibility. I feel confident, however, that the city of Ashland will begin soon to take on such an industrial growth that means will gladly and readily be found for putting the water supply beyond all danger of suspicion.

VALUATION OF PROPERTY.

Following its issuance of the notice of investigation of the rates, rules and regulations of the Ashland Water Company, the Commission had its engineering staff prepare a revised valuation of the property and plant of the company, one valuation having previously been made in 1908 for use in the case of *City of Ashland v. Ashland Water Co.* 1909, 4 W. R. C. R. 273. This more recent valuation was made for the property as it existed June 30, 1912.

At that time the company's intake pipe was nearly all taken up as the result of the discovery that it had been broken in several places by the dragging anchors of the heavy ore boats plying in and out of the Ashland harbor. The usable pipe had been raised and stored on the company's property preparatory to relaying it in a deeper trench. The company was also at that time just beginning the construction of the additional filter bed and clear water reservoir. This new construction was, therefore, not included in the staff's valuation of June 30, 1912. The fact that the latter valuation was considerably lower than the one made in 1908 was largely due to the removal of nearly 90 per cent of the intake, originally valued complete at $45,000. The final summary of the staff's 1912 valuation is as follows:

FINAL SUMMARY OF VALUATION.

Items.	Cost new.	Present value.
A. Land	$5,100	$5,100
B. Transmission and distribution	232,078	219,847
C. Buildings and miscellaneous structures	81,004	75,189
D. Plant equipment	34,604	22,163
E. General equipment	4,119	2,765
F. Paving	26	26
Total	$356,931	$325,090
G. Add 12% (see note below)	42,832	39,011
Total	$399,763	$364,101
H. Material and supplies	11,000	11,000
Total	$410,762	$375,101

NOTE:—Addition of 12 per cent to cover engineering, superintendence, interest during construction, contingencies, etc. (Estimate of cost of relaying intake and constructing additional filter bed and reservoir to follow later.)

Three other valuations were submitted in the case, one made on behalf of the city of Ashland by Dabney H. Maury, consulting engineer, Chicago, and two for the company, one made by its president and supervising engineer, William Wheeler, the other by its superintendent, Sam Wheeler. The first two of these were made as of Jan. 1, 1913, while the last was stated to have been as of June 30, 1912, the same date as that of the staff's valuation. All except that made for the Commission were made to cover the subsequent relaying of the intake and the construction of the additional filter and clear water reservoir. Two of the three valuations made for the city and company appear to have actually covered the property as it existed June 30, 1913, this being accomplished by the addition of a final item of $6,027.00 in the Maury and Sam Wheeler valuations for the company's recent construction expenditures on property not already included by them. In the detail valuation sheets it is noted that William Wheeler included the amount shown by the company's books to have been spent on the new construction at the plant up to March 31, 1913, also an amount estimated as necessary to complete the work then in progress.

For the sake of brevity and convenience the four valuations will usually be referred to hereinafter by the following initials: "C" for the valuation made by the Commission's staff, "M" for the Maury valuation, "S. W." and "W. W." for the Sam Wheeler and William Wheeler valuations, respectively.

The estimates of cost of reproduction new presented in the three valuations last named are here grouped together in Table VIII:

TABLE VIII.

Group.	Item.	M	S. W.	W. W.
A.....	Land.....	$5,100	$5,100	$5,100
B.....	Transmission and distribution.....	248,022	286,040	286,034
C.....	Bldgs. and misc. structures.....	113,769	128,210	132,213
D.....	Plant equipment.....	34,487	42,266	40,366
E.....	General equipment.....	4,119	5,604	5,604
F.....	Paving.....	16,716	22,289	22,292
	Total A—F.....	$422,213	$489,509	$491,609
G.....	General expenses.....	65,326	88,112	85,896
	Total A—G.....	$487,539	$577,621	$577,505
H.....	Materials and supplies.....	3,057	3,057	3,057
	Total A—H.....	$490,596	$580,678	$580,562
	Extensions to July 1, 1913, as per company's records.....	6,027	6,027	[1]6,027
	Grand total, physical property.....	$496,623	$586,705	$586,589
	Going value.....	50,000	.....	.....
	Uncompensated losses and deficits.....	.....	.....	65,176
	Total.....	$546,623	$586,705	$651,765

[1] Not added by W. W.

Table IX following shows the corresponding estimates of the present value of the physical property as determined by deducting from the foregoing figures the respective estimates of accrued depreciation:

TABLE IX.

Group	Item.	M	S. W.	W. W.
A.	Land.....	$5,100	$5,100	$5,100
B.	Transmission and distribution.....	223,393	279,368	274,390
C.	Bldgs. and misc. structures.....	99,296	123,351	126,667
D.	Plant equipment.....	21,539	33,913	30,846
E.	General equipment.....	2,765	3,990	3,962
F.	Paving.....	15,880	22,289	21,451
	Total A—F.....	$367,967	$468,011	$462,416
G.	General expenses.....	56,934	84,242	80,794
	Total A—G.....	$424,901	$552,253	$543,210
H.	Material and supplies.....	3,057	3,057	3,057
	Total A—H.....	$427,958	$555,310	$546,267
	New extensions to June 30, 1913.....	6,027	6,027	[1]6,027
	Grand total, physical property.....	$433,985	$561,337	$552,294
	Going concern value.....	50,000	(not shown)	.....
	Uncompensated losses and deficits.....	.....		60,227
	Total.....	$483,985	$561,337	$612,521

[1] Not added by W. W.

The two company valuations are almost identical in cost of reproduction new of the physical property, but in the corresponding present value "W. W." shows less than "S. W.", or in other words, somewhat more depreciation. In cost new these exceed "M" by very close to $90,000 or 18.1 per cent of the latter. In present values "S. W." and "W. W." exceed "M" by 29.3 per cent and 27.3 per cent, or $127,352 and $118,309, respectively.

It has already been indicated that "C" does not include the fourth filter bed, the clear water reservoir and the relaying of about 90 per cent of the intake. So far as the latter item is concerned, "C" includes $4,400 for 550 feet of intake, then intact at $8 per foot, and $7,620 for 24-inch pipe on hand awaiting relaying. "C" admittedly has shortcomings in other respects, which will be taken up separately hereafter in considering the valuation part by part.

A. Land.

On this item there is no disagreement and no evidence that the value placed thereon should be a different amount.

B. Transmission and Distribution.

In this group, which is subdivided, the entire water pipe systems on both sides of the pumps, together with their appurtenances, are apparently included.

1. *Mains.*

(a) C. I. Pipe. The same length of each size of pipe is used in all of the four valuations. There are, however, small differences in the calculated total tonnages of the cast iron pipe. These differences are due in part to the use of slightly different schedules of weights per foot, and in part to the deduction in "M" of one-half of the overweight allowance of 2 per cent provided for in the standard specifications under which pipe is usually bought. This deduction was explained to have been made on the ground that the foundries could not readily absorb the allowable 2 per cent total overweight without either some trouble and expense or the furnishing of some metal for which payment could not be obtained. The deduction was made from the value of both pipe and specials, after computing it on a 2 per cent

overweight allowance, and amounts to $968. In all the valuations except "C" the weights per foot used were whole numbers of pounds, but in "C" the actual list weights of American Water Works Association's Class "B" pipe were used, with the customary 2 per cent allowable total excess. This 2 per cent excess has heretofore been used in all of the staff's valuations and there seems to be a lack of sufficient grounds upon which to eliminate it, either in whole or in part.

The value (f. o. b. cars, Ashland) of all cast iron pipe and specials in the street mains, exclusive of laying costs, has been variously estimated at from $95,878 in "M," (after deducting for one-half the customary overweight allowance) to $105,351 in "W. W.", a difference of nearly $10,000. The value in "C" was $104,408. This and the two company valuations were based upon average prices during the five years ending with December 1911, whereas in "M." the average for five years ending with June 1913 was used. The later figures are somewhat lower, since they are not influenced by the abnormally high prices of 1907 as are the others.

The Commission's views on the question of the proper basis of prices have been quite fully presented in preceding cases of this character and it would be superfluous to repeat them here. The actual total cost of the cast iron pipe in the mains of the Ashland plant, as indeed of most of the other elements, has not been learned. Computations as to the probable total actual cost of the pipe based on data contained in an exhibit by "W. W.", showing the distribution of his valuation by years and on certain unit prices prevailing during the spring of each of those years in which pipe was laid (purchases for the season's work are likely to be made in the spring) indicate that it has probably not exceeded $96,000 or $98,550, including specials. Computed on the staff's estimate of the tonnage and upon the average of monthly quotations during the five years ending with June 1913, the total value would be $96,401, including specials. Current prices of July 1, 1913, would give about $1,000 more total value of the same material. The available evidence seems to indicate that the value of pipe and specials given in "M." before the deduction of 1 per cent for allowable overweight not absorbed by the foundries ($96.846) is as fair a figure as can be determined under the circumstances.

(b) Valves. In the item of valves in street mains all agree as

to number except that "C" and "W. W." show one less 6-inch valve and valve box than are shown by the other two valuations. The total values given this group are $3,850, $3,849, $3,957 and $3,919, by "C", "M", "S. W." and "W. W." respectively. The last three valuations show from $420 to $433 for valves in pumping station basement which appear to have been omitted from "C".

(c) Pipe Laying. On this item there is a large difference between the highest and the lowest figures before us. The totals exclusive of cartage on the materials, according to "M", "C", "W. W.", and "S. W.", are $52,481, $62,557, $68,413 and $68,633 respectively. The highest of these is $16,152, or 30.76 per cent, more than the lowest, a rather surprising difference under the circumstances. No evidence was offered by the parties or obtained by us which would tend to establish the greater reliability of any one of the above estimates over that of the others. The staff's estimate happens to be exactly $2,000 above the mean of the highest and lowest and of the four estimates. It was the first one made. It is considered probable that this estimate is not materially in error. For the purpose of this case it will be accepted.

(d) Small Wrought Pipe Mains. A very similar situation prevails as to the several estimates on small mains which vary from $3,208, as estimated in "M", to $3,761, as estimated in "W. W." The estimate in "C" is $3,616

2. *Hydrants and Connections.*

Here again there are relatively large differences between the various estimates. The amount involved varies from $11,009 in "M" to $15,229 in "W. W." The value in "C" is $13,071. It was explained by the city's expert that he did not consider the Holly and Gaskill hydrants superior to certain other kinds which are sold at lower prices and one of which other kinds is also used in part by the respondent in this case. He therefore put the same price on all of the company's hydrants. The staff, as well as the company, evidently followed the policy of measuring the cost of the kinds actually used rather than of substitute articles. If the company has actually paid for its hydrants the prices used in the valuation estimates by its president and superintendent it would appear that the staff's information in-

dicates that the buying in this case was hardly as favorable as might reasonably be expected. In the absence of satisfactory evidence that the staff's estimate on this item is too low, it must be accepted as substantially correct.

3. *Services.*

The service connections have been collectively estimated at from $23,924 in "M" to $30,507 in "W. W." and "S. W.", the value given in "C" being $29,864. No deduction appears to have been made in arriving at any of these figures by reason of the fact, as admitted by the company in a previous case, *City of Ashland v Ashland Water Co.* 1909, 4 W. R. C. R. 273, 275, that a portion of the material and labor in services had been paid for by consumers. That amount has been estimated in "C" at $6,-720. No other evidence of the value or cost of that portion is before us. This Commission has heretofore indicated that such facts as above mentioned are important in determining the amount upon which any utility is equitably entitled to earn a net return.

4. *Meters.*

The city's and company's valuations are identical on meters and meter boxes and vaults. They include the same number (228)as are shown in the staff's valuation ("C"), which omits the meters owned by consumers which are 219 in number. "C" shows the extra meters on hand as part of the materials and supplies, Group "H", while all the others include them here in the same group with meters in service. This portion of the group was given a cost of reproduction new in the city and company valuations of $339. Exclusive of this, these valuations all assign a cost value new to the meters, extension dials, meter boxes and vaults of $7,908. The corresponding value in "C" is $7,054. The difference is largely in the vaults and boxes, and is appears that there are differences in the character of these items which the staff may not have realized or taken fully into account. The agreement of the city and company valuations regarding the item of meters and settings leads to a belief in their substantial correctness.

5. *Intakes, Collecting Aqueducts and Supply Mains.*

This group covers the entire pipe system for supplying water to the pumps. Quite a number of separate items are included.

The total values as shown by "M", "W. W." and "S. W." are, respectively, $47,598, $48,426 and $48,566. These differ by comparatively small amounts, the differences being $828 and $968 between the first and each of the others. The value for the entire group as shown in "C" is but $6,278, but unlike the others this valuation does not include the relaid portion of the intake. The pipe taken up and relaid is shown by "C" as part of the materials and supplies on hand, Group "H." At the time of making the staff's valuation, it is understood, only a small part of the 24 inch intake as first laid was intact. The values new for the relaid portion, as given in "M", "S. W." and "W. W.", are $36,357, $36,572 and $36,696, respectively. It appears that a part of the suction piping was inadvertently omitted from "C" and that, with these inserted, the value for the entire group must be approximately $48,000.

C. Building and Miscellaneous Structures.

1. *Pumping Station Buildings.*

Pumping station buildings comprise the pumping station, stack, coal shed and barn. On these the valuations range from $10,715 to $19,192, the former being "C", the latter "W. W."; "M" and "S. W." show, respectively, $15,796 and $18,118. In preparing the 1912 valuation it seems that the staff used the same estimates on the buildings as were placed on them in the former case of 1908. They are admittedly somewhat low for present cost of reproduction, but, owing to an apparently large increase in cost of building materials and labor since these structures were built, it is very doubtful that their actual original cost was even as large as the staff's 1908 figure. Estimates on the same buildings made by the company's superintendent for this case are increased above his own estimates of 1908 by more than 50 per cent, yet the earlier estimate was presented in a more detailed form than the later one, showing no less careful consideration and analysis.

In regard to the building estimates made by the staff in this case it may be said that in view of all the circumstances it seems scarcely probable that its 1908 valuation of the buildings above mentioned (which estimate was copied into the 1912 valuation) is as much below the probable present actual cost of reproduction new as it is below the estimates made by the city's and com-

pany's experts. The staff's figure has been admitted to be perhaps from 10 to 15 per cent too low even for 1908, but the making of proper correction for this would still leave large discrepancies between the staff's figure and the other estimates. The addition of 15 per cent as a correction would make the estimate in "C" $12,322 on the basis of building conditions in 1908. As contrasted with that, we have before us three other and more recent estimates which exceed it by from $3,474 to $6,870, or from 28.2 per cent to 55.76 per cent. The Wheeler estimate of 1908 was less than $12,000. If such differences indicate a rise in costs of building materials and labor, and the rate of rise indicated continues, the cost of erecting such buildings in Ashland may become prohibitive in a few years more. A full consideration of all the available evidence as to the cost or value of the pumping station buildings leads to the conclusion that $14,000 is fairly representative of their value for the purposes of this case.

2. *Reservoir.*

Here again the actual cost is unknown and the estimates differ widely. "C" presents the same figures as were made for the case in 1908, though it is admitted that the cost to build the reservoir now would probably be somewhat more than at that time. The 1908 estimate by the staff was $12,340 and that by the company's superintendent, $13,076. The latter's estimate for 1913 is $18,505. "M" and "W. W." show estimates of $14,533 and $18,380, respectively. The structure is reported to have been built in 1893–4, which was a period of general business depression and doubtless of low costs. The actual cost was very probably less than any of the estimates before us. Both the actual original cost and the estimated cost of reproduction are quite generally recognized as being entitled to consideration in determining fair values in such cases as this. In the present case neither the estimate of the original cost nor that of the cost of reproduction is a very definite amount. They are, however, sufficiently definite to establish reasonable limits within which a fair value must lie.

3. *Wells.*

The difference between the several estimates on this item are relatively small and again the actual cost is unknown. The staff's estimate, which was the same in 1908, is $4,024. "M",

"S. W." and "W. W." submit the probable cost of reproduction new as $4,776, $4,905 and $4,945, respectively. While the staff's estimate is doubtless supported by actual costs of similar work in other cases, it may be a little low for the present case. It is certainly a more conservative figure than those representing the judgment of the city's and company's experts.

4. *Filters.*

The estimated cost of reproduction of the filters, as shown by "C", is $49,048. This applies to only the three original filters and their appurtenances, the construction of the fourth one, now forming part of the property, having just begun at the time "C" was prepared. A review of the staff's original detailed calculations makes it appear that there was a duplication of part of the work in estimating on the filters, amounting to $1,915. The correction of the estimate brings the total to $47,133. The original cost (1895–6) appears to have been $40,959. Estimates of the cost of reproduction as made by the company's superintendent in 1908 and 1913 are $46,000 and $50,488, while "M" and "W. W." show estimates of $42,570 and $50,488, respectively. The company's 1913 valuations on the original filters are identical and are about 23.3 per cent above the original cost. The difference between the 1908 and 1913 estimates by the superintendent rather indicates that there may have been a slight and unconscious departure from the intended basis of recent normal or average rates of cost, and that considerations of immediately current rates of wages for labor and prices of materials may have been more of a factor than in the valuations "C" and "M." So far as it is indicated by the evidence before us, the fair value of the original filters for the purpose of this case must fall somewhere between $40,959 and $50,488.

The cost of reproduction of the new filter bed and clear water reservoir, constructed in 1912–13, is given in each of the three valuations by the city's and company's experts as the actual cost shown by the company's books to March 31, 1913, namely, $28,977. "W. W." presents a further item of $256 as estimated to be necessary to complete the work, also an item of $2,960 for automatic controllers on all filters and certain changes in connection with their installation.

5. *Miscellaneous Buildings.*

Roughly speaking, from $5,000 to $7,000 is involved in this group, which includes the superintendent's residence, fences, walks, drains, grading and seeding of grounds, etc. The estimates of the cost of reproduction of the entire sub-group, as presented in "W. W.", "S. W.", "M" and "C", are, respectively, $7,055, $7,177, $7,117 and $4,877. The last of these is the same as was presented four years earlier, at which time the superintendent's estimate was $6,385.50. This latter figure included an increase of 25 per cent over the contract price of the residence which was built in 1902. Judged by the three other valuations and their fairly close agreement, the staff's estimate is probably too low for the present cost of reproduction, yet is doubtless in excess of the original actual cost.

D. PLANT EQUIPMENT.

The cost of reproduction new of the several items included under this heading has been estimated at from $34,487 to $42,266, the former figure being from "M" and the latter from "S. W.". The corresponding estimate made in 1908 by "S. W." appears to have been $36,528.25. The value given in "C" is $34,604, or $117 more than "M", while "W. W." presents a total of $40,366. A large proportion of these values is in the three principal pumping engines, including the cost of their erection. On these three units the several estimates and actual cost appear as follows:

S. W. (1913)	$29,300
S. W. (1908)	26,264
W. W.	27,400
M.	22,050
C.	24,064
Cost (1884–1894)	24,646

"C" and "M" both estimate the cost of reproduction of the two Gaskill pumps at less than their original actual cost as stated in the company's valuations, while both of these latter present higher values. There appears to be no sufficient reason for not accepting the staff's figure on plant equipment as a fair value for the purposes of this case.

E. GENERAL EQUIPMENT.

This group has been estimated at from $4,119 in "C" to $5,604 in each of the company's valuations, the amount in "M" being

the same as in "C". In this connection it is noted that the company's valuations show an item of $1,000 for plans and construction record books. There is no corresponding item in the staff's valuation as the plans and construction records were considered as a part of the cost of engineering and supervision covered in the general overhead expenses. The company values its horses, vehicles, harness, blankets, etc., at $870, or $245 in excess of the staff's estimate. It agrees with the latter on distribution system tools at $1,393. Exclusive of the $1,000 difference above noted, the remaining difference of $240 is in shop and office equipment and is believed to have resulted from an unduly liberal estimate.

F. Paving.

The valuation by the city's expert, D. H. Maury, includes $898 for the paving actually disturbed by the company in its construction work, also an item of $15,818 for all other paving over the company's mains and services. Corresponding to each of these the company submits two figures, those in "W. W." being $1,025 and $21,267 and those in "S. W." being $1,023 and $21,266. "C" presents but one figure, $26.

In reference to the paving placed over the company's pipe lines after they were laid it may be said that the Commission has already held in several previous cases *(City of Milwaukee v. T. M. E. R. & L. Co.* 1912, 10 W. R. C. R. 1, 116, and cases cited.) that this element of cost of reproduction of its property has no place in the amount upon which the utility is entitled to earn. The matter has been fully discussed in preceding decisions. The same rule will apply here.

The question as to the amount to be allowed in this case for paving is as to the amount of expense to which the company was actually put in placing its pipe lines under pavements then in existence. The staff's estimates on paving in the 1908 valuation was made on the basis of all paving then existing over the mains and services without regard to the amount which had been an actual expense to the utility. Apparently the staff's later valuation of 1912 was based on incorrect or incomplete information as to what paving the company had been obliged to take up and replace, as the quantities used in this estimate are not the same as those used in the city's and company's valuations of 1913. These latter are computed on identical quantities and kinds of paving but on different rates of cost. It is noted, however, that the

amounts include not only such paving as was involved in original construction but also that affected in connection with the renewing or relaying of old pipe. It may be that at least some part of the latter portion is strictly a maintenance expense and is not rightfully entitled to consideration here. As the inclusion or exclusion of the entire amount will affect the gross amount to be earned by the utility by less than $100 per annum, it is not a matter of great consequence.

The staff's (1912) estimate on paving was computed on 26 lineal feet of pipe under brick pavement and 70 feet under macadam. The three other estimates were all computed on 42 lineal feet of mains under asphalt, 115 feet of mains under macadam, 1,964 feet of services under asphalt and 265 feet of services under macadam. The staff's figures probably omitted paving disturbed in connection with the installation of services, also that affected in connection with the relaying of mains, if any was so affected.

The city's and company's estimates show that the total paving expense to which the utility in this case has been put is probably between $898 and $1,025.

ADDITIONS.

The several valuations were nominally made as of different dates, as was heretofore explained, yet it is found that they are in a substantial agreement with the staff's valuation of June 30, 1912, as to quantities on all items except the intake, new filter, and clear water reservoir. The superintendent's valuation presents a supplementary statement showing certain items added to the property between July 1, 1912, and July 1, 1913, and not included in any of the four valuations submitted in this case. The statement shows the kinds, quantities and actual costs of the several additional items. They include small domestic service mains, service connections, meters, utility equipment and office equipment, in addition to a part of the new filter plant investments. The last of the above is here neglected as we have already mentioned and accepted the estimate in "W. W." of the amount required to complete that construction. The other features enumerated in the superintendent's supplementary statement aggregate $1,015.07 and will be included here to arrive at a total property value as of July 1, 1913.

G. Overhead General Expenses.

For preliminary expenses, engineering and superintendence, administration and legal expenses, general contingent costs during construction, interest during construction, etc., the city's valuation includes an item of $65,326 in addition to $422,213 for physical features hereinbefore mentioned.

The company claims $85,896 by "W. W." and $88,112 by "S. W." for the general overhead expenses, which are, respectively, equal to 17.4725 per cent and 18 per cent of their estimates of cost of the physical property. In "C", as prepared in 1912, the allowance for these items was 12 per cent of the estimated cost of reproduction of the several features of the property, or $42,832. This has since been acknowledged to be too low. In certain other subsequent and rather similar cases the staff has applied an addition of 15 per cent to cover expenses of the kind just alluded to. It is admitted that the allowance in this case should be increased from 12 to 15 per cent of the values as herein determined.

H. Materials and Supplies.

The staff's estimate or valuation of the materials and supplies on hand June 30, 1912, included the extra meters on hand for interchange, which were classed in the city's and company's valuations with those in service and have been so considered herein, also the 24-inch intake pipe on hand awaiting relaying. Exclusive of these there appears to be a substantial agreement among the four valuations, the city's and company's being identical and showing $3,057 as the amount of property included under the above heading. That amount is, therefore, accepted here.

Other Physical Property.

The company has pointed out that there have been other elements or items of property representing legitimate investments and which for a time served the purposes for which they were intended, but which had to be displaced and abandoned without return to the company of the investments involved. These items have been summarized under the head of "Uncompensated losses and deficits," which is used to designate plant and capital losses other than ordinary depreciation. The items include: (1) An original 16-inch diameter wrought iron intake pipe

having a length variously stated at from 1,500 to 2,700 feet, laid in 1884, abandoned in 1889. (2) The destruction of part and the consequently necessary reconstruction of a very large part of the 24-inch cast iron intake pipe as first laid in 1889; (3) The original engineer's residence built about 1888–9, replaced by the superintendent's residence 1901; (4) Discounts on bonds. Those were estimated by the company's president at a total of $65,176.

That the company has actually been put to some such amount of expense for the above items has not been disputed. It cannot be claimed, however, and it is not claimed that they represent additional physical property now used or useful for the utility's service to the public. Such facts and circumstances are entitled to consideration and some weight in the determination of the total value upon which earnings should be had, but they are non-physical, rather than physical elements. The review of all the evidence as to the value of the physical property now used or useful leads to the conclusion that it alone fairly represents an investment of not less than $491,500. That the valuation submitted on behalf of the city is somewhat greater than this is due to the inclusion by the city and the exclusion by the staff of the expense of reproduction due to existing pavements.

Consumers' Meters.

The annual report by the company to the Commission for the year ending June 30, 1913, shows that of the total of 588 meters in service 256 are owned by consumers. One of these is a ¾-inch and one a 6-inch meter. The others are all ⅝ inch. In the 332 meters then owned by the company, it appears there were 114 ¾-inch, 11 1-inch, 5 1½-inch, 8 2-inch, 2 3-inch, and 1 4-inch meters. The prices of these are found to range up to $200. While the company owns but 56.5 per cent of the total number of meters, it owns a much larger proportion of the total value, or rather cost, of the meters used. Those owned by consumers, figured at the standard list prices, would represent a total cost new of about $2,500. On the assumption that many of these have already been in service for a number of years their present value will doubtless be considerably less than that amount. Meter boxes and vaults paid for by consumers are not considered, as there is no sufficient reason why the provision of a safe place

in which the utility can set its meters should not be at the individual expense of consumers.

It is now a general rule that Wisconsin utilities shall own and maintain the meters through which their services are measured to consumers, yet it is sometimes expedient, if not necessary, to make exceptions to this rule. In this case less than $2,500 of additional investment would probably be sufficient to enable the company to re-purchase from consumers those meters provided individually. There are, however, more than 1,400 unmetered consumers, over 1,300 of which are residences. If all these have the right of demanding a meter from the company at its expense a further investment of upwards of $10,000 would be necessary. This would also materially affect the total cost of service, through the items of maintenance, depreciation and interest, if not in certain other items.

In view of the present great magnitude of the investment in the Ashland plant as compared with other Wisconsin water plants it is deemed inexpedient to require the company to alter its present rule concerning the furnishing of meters to residence or other small consumers.

Ashland and Other Plants Compared.

When compared with the various other Wisconsin water plants of which the Commission has had valuations made by its engineering staff, the physical property of the Ashland plant shows a relatively high investment. Compared on the basis of investment (as measured by estimated cost of reproduction) per capita, this utility has relatively the highest value in the list. It has a cost of reproduction value new of $40.96 against a value ranging from $15 to $25 per capita for nearly all of the other plants considered.

Compared on the basis of physical property value per service, or per consumer, the Ashland plant shows $248.12 while most of the other plants show between $100 and $170.

The property value per million gallons pumped is also an instructive basis of comparison as it will, to a certain extent, indicate the effect of the property upon rates through the items of interest, taxes and depreciation. This plant is one of only six out of twenty-five plants for which we have the necessary data to make such a comparison, which show a cost of reproduction per million gallons of output exceeding $1,000. Five of the

plants have less than $500 and fourteen have less than $750 of such value.

This aspect of the Ashland plant is very largely due to the proportion of the total value which is represented by the intake, wells, reservoirs, filters and other features for merely supplying water to the pumping engines. This group of items alone shows a cost of reproduction amounting, with its proportion of the overhead expense, to approximately $167,000 or 34 per cent of the grand total of physical value. Probably no other water utility in Wisconsin has nearly so large a proportion of its total cost in the features for developing and conveying water to the pumps, yet apparently none of this property in the present case could well have been dispensed with.

EXPENSE OF RELAYING INTAKE.

The company has plainly shown a belief that the cost of relaying the intake is chargeable to capital investments as representative of new capital. The amount of this expense is reported to be $28,734.50. After the relaying of the intake its cost of reproduction new was shown in the city's and company's valuations as follows:

D. H. Maury (City)	$43,360
Sam Wheeler	43,769
Wm. Wheeler	43,587

In the original valuation by the Commission's staff (1908) this item was given an estimated cost of reproduction new of $45,000, while in the valuation submitted by the company's superintendent about the same time it was valued at $46,003. These figures were on the basis of a length of 5,000 feet. The length as relaid is given as 3,259 feet.

Except for the expense of relaying all but 528 feet of its present length the intake now represents somewhat less capital than it formerly did. One of the questions now before us and the parties in the case is whether or not the relaying cost is to be capitalized. It certainly has not resulted in more or in new physical property. It was the cost of restoring destroyed property. The destruction came about through the developments in the marine commerce of the Ashland harbor and the fact that the pipe had not been laid in such a way as to be safe against the unforeseen conditions which developed. Had it been laid as deep

in the first place as the remaining portion is now laid, it would undoubtedly have cost much more than $45,000 or $46,000. It would also doubtless have remained undisturbed and still have its original length instead of about two-thirds of that length.

The partial destruction of the intake came about through circumstances over which the company cannot be said to have had any control. It would seem to be impossible to support a claim that the company was at fault in not foreseeing the developments in the shipping industry and in not having a much larger investment originally for protecting its intake against these developments.

Many accidents and losses in such plants occur in much the same manner. They must be provided for in some way. The best modern practice makes at least some provision in advance by building up a depreciation reserve year by year to meet the requirements for renewals and replacements which are very sure to become necessary sooner or later through one cause or another. The provision made in advance will probably but seldom prove to be just the right amount. In some cases the requirements may prove to have been overestimated while in others the reverse will be true. The annual appropriations to a depreciation reserve may have to be increased or decreased from time to time in order to keep it in proper relation to the state of the plant.

In this case no depreciation reserve is found to have been created prior to 1911. Such earnings as were obtained in excess of direct operating expenses, ordinary maintenance and taxes were apparently applied to make returns upon the invested capital or were reinvested as new capital. The past earnings seem to have been generally insufficient to build up a proper depreciation reserve and still make a fair return as interest on investments.

The idea of carrying a depreciation reserve in the accounts of a public utility is of comparatively recent origin, at least so far as general application of the idea is concerned. The nearest approach to it formerly was the somewhat common requirement of bondholders that a plant should show net earnings sufficient to meet not only its bond interest but to either retire a certain proportion of its bonds each year or to build up a fund during their life which would be sufficient to retire the whole issue at maturity. This amounts to the return to the investors, during a specified period, of the portion of the capital represented by bonds.

Under the heading "Depreciation" is shown below approximately to what extent a depreciation reserve would have provided for the reconstruction of the intake had such a reserve been founded at the time the present owners acquired the property and been built up at the rate of 0.7 per cent of the property value per annum.

DEPRECIATION.

This utility, in common with nearly all others of its kind, has, until a very recent date, failed to maintain a depreciation reserve for the renewals and replacements which become necessary from time to time in any public utility. That such provision is necessary is now becoming generally recognized. Had such a reserve been kept by this utility from the beginning the annual reservations would, of course, have correspondingly reduced the amounts which were considered by the company as its net earnings, and would also have correspondingly increased such deficiencies as may have existed in net earnings below a fair and reasonable return on its investments.

The several valuations submitted in this case show about as wide differences in the gross amounts of depreciation which has accrued to the plant to date as in the estimates of its cost new. "M" shows a present value of only 87.38 per cent of cost new or a difference of $62,638. "S. W." and "W. W." show differences, due to depreciation, amounting to $25,368 and $35,295, respectively; these are 95.68 per cent and 94.00 per cent of their respective costs of reproduction new. The staff's valuation, which omitted certain large recent investments in new construction of a rather permanent character, as already explained, showed a corresponding difference of $35,662 or a ratio of 91.32 per cent. The effect of including in the cost new the large recent investments in property against which practically no depreciation can yet be considered to have accrued, will obviously be to increase the ratio between present value and cost new. Theoretically, at least, the difference between these values should be in the assets offsetting the depreciation reserve, in order to preserve the property and the investments represented by it.

The matter of properly creating and maintaining a depreciation reserve requires a determination, as nearly as may be, of the rate of depreciation of the property as a whole or

for each of its parts individually. This is nothing more or less than an attempt to properly anticipate the future requirements for renewals and replacements which become necessary through deterioration and decay due to climatic and soil conditions, wear and tear, accidents, etc., or through obsolescence and inadequacy. It can scarcely be contended that the predetermination of such future requirements can be made with mathematical accuracy. It must, however, be approximated as nearly as human judgment and a due consideration of the proportions of the total property included in long lived and short lived items will permit.

Computations show the probable composite life of the property involved in this case to be nearly sixty years. This applies only to the depreciable portion, or that part remaining after the deduction of the land, materials and supplies on hand and scrap or junk values, where the latter may reasonably be considered to exist. The depreciable portion of the Ashland Water Works property is found, after such deductions, to be at this time $414,700. This includes a portion of the general overhead costs.

Computed on a no interest basis, the annual reservation for depreciation at this time should be $6,575; on a 2 per cent interest basis, $3,542; and on a 4 per cent basis, $2,069. These figures indicate, in a general way, the effect of interest upon the amount of principal required annually to take care of depreciation. The practicability of obtaining interest at an average rate of as much as 4 per cent on funds which are frequently drawn upon and added to is of sufficient doubt to lead to the assumption and use of a more conservative rate. The amounts set aside annually for depreciation must increase with the magnitude of the depreciable property, although perhaps not in exactly direct proportions. The amount stated above to have been computed on a 2 per cent interest basis ($3,542) represents 0.854 per cent of the depreciable property or 0.72 per cent of the entire physical property as found to exist on June 30, 1913. It is believed that 0.7 per cent of the entire property will probably be a reasonable annual charge to depreciation for some years to come.

That an annual amount equal to 1 per cent of the entire property value is more than sufficient to take care of depreciation and renewals is well indicated by one of the company's exhibits in this case, namely, its computations of earning value, in which 1 per cent of the reproduction value as distributed by years was

considered to have been the annual requirement for that purpose. The total of the amounts thus charged to depreciation is found to be $108,123, exclusive of any interest which such a reserve fund should have earned. As before stated, the two valuations submitted on behalf of the company show estimates of actual physical depreciation of the property amounting to only $25,368 in one case and $35,295 in the other. The latter of these figures is substantially in agreement with that obtained from the staff's estimates of cost of reproduction new and present value.

When computed as 1 per cent of the annual property values which appear to represent the probable actual total cost year by year, the appropriations to a depreciation reserve, assumed to have been started in 1892 when the present owners came into possession, would now amount to $89,164 without interest accretions, and to $107,949 with compound interest at 2 per cent.

Had such a depreciation reserve been created it would properly be credited with probably about $12,000 for the return of capital invested in certain features of the original plant which have been replaced or abandoned and which, therefore, do not appear in the present inventory and valuation. These include the original 16-inch intake, boilers, the engineer's residence, and perhaps some other minor items.

Assuming such a reserve to have been started in 1893 and built up at the rate of only 0.7 per cent of the cost of the plant annually, and assuming interest accretions at a rate of only 2 per cent, the reserve would have taken care of not only the replacements above noted but the reconstruction of the 24-inch intake in 1912 and would still contain substantially the amount of estimated depreciation of the plant shown by two of the valuations before us.

INTANGIBLE VALUE.

That a public utility may, and usually does, have some value beyond that of the bare cost of its physical property or plant is now so generally recognized as to need no further general demonstration here. Previous decisions of this Commission have clearly shown that there is an additional element, commonly termed "going value," to be considered, and have also indicated the manner in which it is probably best determined.

The city's valuation in this case contains an item of $50,000

for going value, which is added both to the cost new and to the present value of the physical property. The author of that valuation also admitted that there was a further item to be considered along with the total as shown by his figures, namely, working capital. The reasonable and proper amount, in his judgment, to be allowed for this item was not indicated.

The company's superintendent apparently did not prepare and submit any figures as to going value, uncompensated losses and deficits, or working capital required. The company's president and supervising engineer, however, did submit figures for all of these items except working capital. One of the exhibits prepared by him is an earning value computation, made in the manner of similar computations by this Commission in other cases, except that instead of being based on the actual construction expenditures year by year it is based on his estimated cost of reproduction distributed through the several years of development of the property. This computation, based on a return of 7 per cent, showed an earning value, in 1913, of $1,141,917. On account of the large discrepancy between his estimate of cost of reproduction and the value herein found, and between the former and the known or approximately known actual costs of certain parts of the plant, his estimate of present earning value can scarcely be considered as indicating the true deficiencies of net earnings below any assumed fair rate of return.

After the hearings were had, the company upon request furnished a statement of the actual annual construction expenditures as shown by its records from the time when it came into possession of the property, which was in the latter part of 1891 or 1892, or about 7 to 8 years after the plant was started. These data are as follows:

Construction account at time of purchase		$476,378.24
Additional construction:		
To Feb. 28, 1893		17,506.71
" 28, 1894		25,794.02
" 28, 1895		29,160.71
" 28, 1896		42,969.31
" 28, 1897		5,259.88
" 28, 1898		827.16
" 28, 1899		1,232.93
" 28, 1900		2,148.81
" 28, 1901		2,661.49
" 28, 1902		2,836.24
" 28, 1903		8,041.40
" 28, 1904		7,649.33
" 28, 1905		11,469.96
" 28, 1906		10,052.14
" 28, 1907		4,510.52
" 28, 1908		5,151.47
To June 30, 1909		2,652.06
" 30, 1910		6,222.10
" 30, 1911		3,415.84
" 30, 1912		11,192.87
" 30, 1913		[1]57,167.33
Total		$734,300.52

Subsequent to the entry on the company's books of the original item of $476,378.24 in 1892 the records show the expenditure of a total of $257,922.28 for extensions to the property, including $28,734.50 for the relaying of the intake pipe during the latter part of 1912. The deduction of these extension costs from the hereinbefore determined physical property value new ($491,514) shows a difference of $233,592. This would appear to have been reasonably near to the physical property value at the time of the transfer to the present company, except for the effect of including in the cost of extensions the expense of relaying the intake. This expense did not result in giving the company two 24 inch cast iron intake pipes, or more property than it had before, therefore it must be deducted from the total cost of extensions or added to the above sum of $233,592 in order to arrive at a figure more representative of the property in the latter part of 1892. This correction results in a figure of $262,327 as probably more nearly representative of the fair cost of the now existing physical property transferred to the present owners in that year. But there was also certain other property to be considered which was not included in the present inventory, although mentioned in the company's estimate of uncompensated losses and deficits. This includes the original 16 inch diameter intake pipe

[1] Of this amount $28,734.50 is the cost of relaying intake pipe during the latter part of 1912.

and the house for the pumping station engineer which preceded the superintendent's residence. The intake was estimated in "W. W." at $12,150 on the basis of a length of 2,700 feet. The actual length was subsequently stated by the company's superintendent to have been only about 1,500 feet.

That the values of the physical property in 1892, or at the time of its transfer, could not have been anything like the original investment as entered on the present owning company's books is also very strongly indicated by the fact that the distribution by years of the president's estimate of cost of reproduction shows a value of only $328,660 at the end of 1892. This is $147,718 less than the reported original cost to the present owners.

Measured in another way, that of valuation of the property as it appears to have existed in 1892, and largely according to unit prices taken from the staff's estimate of cost of reproduction which, so far as labor is concerned, are undoubtedly much greater than actual unit costs of the early work in this case, the physical property at that time represented not more than $292,000, including an allowance of 15 per cent for general overhead expenses. Including deficits in net earnings below a fair and reasonable return on investment the evidence seems to show that when former lower labor costs are taken into account, $290,000 may fairly be taken as representative of the property in 1892, and as a starting point in our computations of earning value from that year to this. That such computations were not made for each year prior to 1892 is due to the fact that the required data are not available.

The computations referred to show that on our assumption of $290,000 as the earning value of the plant in 1892, when sold to the present owners, and on our estimates of depreciation and the statement of net earnings as submitted by the company, the earning value at June 30, 1913, is $561,462 on a 6 per cent and $734,273 on a 7 per cent uniform rate of return. Interest charges for the current year on these sums at their respective rates would be $33,688 and $52,029. These amounts are almost two to three times the annual net earnings of the company during the past few years. While the past net earnings are unquestionably less than would constitute a fair rate of return, the making of a new rate schedule which will provide more equitable returns is a matter for very serious consideration. The greater the increase in existing rates the greater will be the tendency to not only check

development of new business but to lose some of the company's present consumers and revenue. There is, therefore, a practical limit beyond which earnings cannot possibly be made to go, even though this limit may not provide a fair and reasonable rate of return on the full value.

The city's expert, in estimating the going value of the utility in this case, estimated that 5½ years would be required to build a new and similar plant and have it acquire a business equal to that which the existing plant now has. He arrived at an amount somewhat less than—but which he put in round numbers at—$50,000. Careful consideration of his estimates and the making of further calculations of the same nature lead to the belief that the sum named would be an ample if not a liberal sum to cover not only the going value element but working capital as well.

BOND DISCOUNT.

The company has pointed out that one of the elements of its actual cost or items of expense was bond discount. A tabulation was submitted showing that, exclusive of the unknown discount on the original $100,000 of first mortgage bonds issued by the former owners, the actual expense incurred by the present owners on account of discounts on its own bond issues has been $15,371. It was also inferred that the company believed there had been a further discount of at least 10 per cent, amounting to $10,000, on the $100,000 of first mortgage bonds. The total of the cost of securing money in this case may, therefore, be upward of $25,000. The amount of bonds now outstanding appears to be $225,000. These are all what are known as consolidated mortgage bonds, the original issue of first mortgage bonds having been taken up in exchange for an equal amount of the later issue.

In previous cases the Commission has said that although the item of discount on bonds is important to consider in determining the value of any utility property it does not follow that all of the actual expense which this item represents is to be included in the valuation upon which rates are determined. The obvious results of any such rule would be to encourage the showing of larger and larger discounts of utility securities.

TOTAL VALUE.

When all proper elements of cost or value are taken into account it is apparent that the company in this case is clearly entitled to reasonable net earnings on fully $500,000. In this connection it may be noted that the company's common and preferred stocks and its outstanding bonds aggregate $525,000 at par value.

When all the circumstances, including the present practical limitations of the company's business field, are considered it is very much to be doubted that a net return, after providing for operating expenses, taxes and depreciation, of more than $30,000 per annum may reasonably be expected for the immediate future.

It would not be possible for any one to say with certainty just how far rates or earnings might be increased without affecting the retention of the present volume of business. It is obviously certain that the greater the increase in prospective earnings provided by a new rate schedule the nearer the company will be to the point of losing some of its present consumers.

The question of the value of the service also demands consideration in any case wherein rates equitable to the company may appear to consumers to border on the burdensome. The consumers will naturally be the ultimate judges as to the value of the service in cases where other supplies are available and between which and the general city system a choice may be made. There is evidence before us that many citizens already depend upon bottled spring water for drinking purposes.

STATISTICS OF OPERATION.

For the five years ending with June 30, 1913, the annual reports filed with the Commission show the following yearly revenues and expenses:

	1909	1910	1911	1912	1913
Operating Revenues					
Commercial sales	$29,726 86	$29,577 95	$30,262 31	$29,897 46	$29,922 29
Industrial sales	8,229 07	9,285 38	8,647 03	9,119 55	10,003 01
Mun. hydrant rental	14,960 00	15,010 00	15,060 00	15,097 50	15,110 00
Street sprinkling	178 98	134 89	166 90	202 47	195 39
Municipal depts	74 94	111 56	110 00	45 00	105 00
Miscellaneous					
Total	$53,169 85	$54,119 78	$54,246 24	$54,361 98	$55,335 69
Operating Expenses					
Pumping	$7,945 89	$8,222 76	$8,489 23	$12,798 99	$9,344 90
Distribution	1,943 17	2,060 86	2,661 31	2,363 77	2,590 78
Commercial	893 35	956 80	1,128 41	1,273 50	1,385 12
General	5,804 93	6,253 16	7,220 92	6,283 33	7,495 75
Undistributed	1,328 55	1,583 25	1,417 19	1,092 72	1,357 60
Total	$17,915 89	$19,076 83	$20,917 78	$23,812 31	$22,174 15
Depreciation			2,000 00	3,000 00	2,500 00
Contingencies					
Taxes	11,000 00	16,524 40	11,004 69	9,507 09	10,162 40
Total expenses	$28,215 89	$35,601 23	$33,922 47	$36,319 40	$34,836 55
Net operating revenue	$24,253 96	$18,518 55	$20,323 77	$18,042 58	$20,499 14
Non-operating revenue	1,148 88	815 85	758 47	489 03	355 79
Gross income	$25,402 84	$19,334 40	$21,082 24	$18,531 61	$20,854 93

[1] As charged by company.

It will be noted that no depreciation was charged by the company in its statements of expenses for 1909 and 1910, although during the past three years a total of $7,500 has been so charged in the expense accounts. In our computations of earning value, previously referred to, the estimated proper amounts for depreciation for the past five years were:

1909	$3,280	
1910	3,311	
1911	3,345	$10,276
1912	3,396	
1913	3,535	
Total	$16,867	

The substitution of the above amounts for depreciation in the statements of earnings and expenses for the five years makes the net earnings appear as follows, inclusive of non-operating revenues:

Year	Amount
1909	$22,122.84
1910	16,023.40
1911	19,737.24
1912	18,135.61
1913	19,819.93
Total	$95,839.02
Average	$19,167.80

The operating expenses, exclusive of taxes, and the operating revenues have both shown a fairly gradual but small increase during the past five years. The greater variation in net earnings has been largely due to the variation in taxes. In 1910 this item was $7,017.31 or 73.8 per cent more than in 1912. The total and average amounts paid during the period were, respectively, $58,198.58 and $11,637.72. This average amount was exceeded in only one year, 1910.

Since the proper determination of rates must be based upon a normal statement of expenses it is necessary to make comparisons of the annual operating expenses through a period of years and determine the normal amounts. These will not necessarily be the exact figures for the most recent fiscal year, nor should they necessarily prove to agree with the actual costs for the current year at its close. They must also be such as may appear to indicate reasonably efficient operation and management as measured by results obtained elsewhere, due allowance being made for difference in operating conditions.

One decided fluctuation occurred in the pumping expenses during the five years from 1909 to 1913, inclusive. This was in 1912 and is found to have been due to abnormal or unusual expenditures on maintenance of purification equipment and on maintenance of collecting aqueducts, intakes and supply mains. For rate-making purposes such unusual expenses are properly distributed over several years. Other items which should not show a decided tendency to continually increase or decrease, but which actually vary from year to year, may well be averaged through a few years. In this way it has been determined that the present fair normal operating expense to be apportioned in a new rate schedule amounts quite closely to $22,000, exclusive of taxes, depreciation and interest. This is arrived at by a detailed analysis of the operating costs during the past five years, and without allowance for any additional requirements which may be put upon the company and which may involve more expense.

Additional Expenses.

The urgent demand of the city in this case for improvement in the quality of the water furnished by the company would, if complied with, certainly involve greater expense in some form. The extension of the intake far enough to reach to a point where a

satisfactory water would always be obtained, and the change to a ground water supply are plans which are financially impossible of execution by the water company. The city, if it should acquire the water works property, would doubtless be much more nearly able to finance one of those plans of improvement.

So far as improvement in the quality of its water supply by the company is concerned there is apparently but one way which is possibly feasible under all the circumstances of this case. There may even be some doubt and no assurance of the success or even partial success of that plan, but the probable extra expense involved is not of such proportions as to make it too costly to be well worth a trial. The plan is the installation of a suitable water analysis laboratory at the pumping station and the employment of a competent person (if the company's present organization does not contain one) to have charge of the laboratory and to intelligently supervise the filtration and disinfection of the water supply.

Some other minor changes, such, perhaps as in the point of application of the hypochlorite solution may be desirable and beneficial and yet involve comparatively small extra cost.

We venture to suggest also that until Chequamegon Bay can be abandoned as a source of public water supply there may be some merit in the plan to have the city disinfect its domestic sewage at the sewer outlets, sufficient merit at least to warrant the investigation and trial of that plan by way of coöperating with the water company in the effort to improve the service. It is not believed probable that the cost of the proposed disinfection would necessarily be large or burdensome.

If the company is to be required to apply more scientific treatment to the water purification problem it will doubtless incur some additional expense in that connection and an effort must be made to properly provide for it in establishing new rates for future service. In order to allow for this additional expense and the natural increase in past expenses we shall consider the normal annual operating expense of the immediate future to be substantially $23,800.

Distribution of Expenses.

The several items of expense should be equitably divided between public and private service, and the portions charged to the latter should be further separated into other sub-classes so

that each private consumer will contribute as nearly as practicable his just proportion of the total cost of service. The methods pursued in making such distributions of expenses have been so fully explained in previous decisions of this Commission in rate cases that it would be superfluous to explain them again here. The results of the primary analysis are presented below in Table X, the "General" and "Undistributed expenses" being distributed pro rata with "Pumping", "Distribution", and "Commercial expenses" between the capacity, output and consumer classes.

TABLE X.

PRIMARY SEPARATION OF OPERATING EXPENSES.

	Direct municipal		Capacity.		Output.		Consumer.		Total amount.
	Per cent.	Amount.	Per cent.	Amount.	Per cent.	Amount.	Per cent.	Amount.	
PUMPING:									
Superintendence and pump labor	....	.....	75	$1,156 93	25	$385 64	....	.....	$1,542 57
Miscellaneous labor	....	.....	100	30 93	....	.....	....	.....	30 93
Purification labor	....	.....	....	.....	100	805 19	....	.....	805 19
Boiler plant labor	....	.....	75	905 25	25	301 75	....	.....	1,207 00
Fuel	....	.....	25	1,150 91	75	3,452 72	....	.....	4,603 63
Misc. boiler plant supplies	....	.....	50	15 62	50	15 63	....	.....	31 25
Maintenance of boiler plant	....	.....	60	108 22	40	72 15	....	.....	180 37
Lubricants	....	.....	5	11 00	95	208 99	....	.....	219 99
Purification sup. and exp	....	.....	10	9 86	90	88 78	....	.....	98 64
Misc. pumping station supplies and expense	....	.....	60	220 85	40	147 23	....	.....	368 08
Maintenance:	....	.....	25	97 46	75	292 37	....	.....	389 83
Steam pumping equipment	...	.....	25	15 37	75	46 13	....	.....	61 50
Auxil. " "	....	.....	10	21 77	90	195 90	....	.....	217 67
Purification "	...	.....	100	461 50	....	.....	....	.....	461 50
Bldgs. fixt. and grounds	....	.....	100	265 35	....	.....	....	.....	265 35
Intakes and supply mains	....	.....	100	20 20	....	.....	....	.....	20 20
Ground supply									
Total pumping		0		$4,491 22		$6,012 48		0	$10,503 70
DISTRIBUTION:									
Removing and resetting meters	....	.....	....	.....	....	.....	100	$43 00	$43 00
Street department labor	....	.....	100	$328 00	....	.....	....	.....	328 00
Meter and fittings department labor	....	.....	....	.....	....	.....	100	4 00	4 00
Customers' premises expenses	....	.....	....	.....	....	.....	100	320 00	320 00
Street dept. sup. and exp	...	.....	100	94 00	....	.....	....	.....	94 00
Meter and fittgs. dept. supply and expense	....	.....	....	.....	....	.....	100	4 00	4 00
Maintenance:									
Distribution mains	....	.....	100	500 00	....	.....	....	.....	500 00
Services	....	.....	....	.....	....	.....	100	1,330 00	1,330 00
Hydrants	100	$325 00	....	.....	....	.....	....	.....	325 00
Meters	....	.....	....	.....	....	.....	100	350 00	350 00
Total distribution		$325 00		$922 00		0		$2,051 00	$3,298 00
COMMERCIAL:									
Collection salaries and comm.	....	.....	....	.....	....	.....	....	$1,100 00	$1,100 00
Reading meters and deliver. bills	....	.....	....	.....	....	.....	....	225 00	225 00
Collection sup. and exp. Uncollectible accounts Promotion of bus. sup. and exp. Promotion of bus. sal. and comm.	....	.....	....	.....	....	.....	....	183 00	183 00
Total commercial		0		0		0		$1,508 00	$1,508 00
Total of foregoing	....	$325 00	....	$5,413 22	....	$6,012 48	....	$3,559 00	$15,309 70
General undistributed	....	.....	....	3,066 20	....	3,408 50	....	2,019 30	8,494 00
Total operating	....	$325 00	....	$8,479 42	....	$9,420 98	....	$5,578 30	$23,803 70
Interest Taxes Depreciation	....	.....	....	.....	....	.....	....	.....	44,550 00
Grand total	....	.....	....	.....	....	.....	....	.....	$68,353 70

A reapportionment of the value of the property between public and private service shows that 45 per cent is fairly chargeable to the former and 55 per cent to the latter. These are the proportions which these classes of service are entitled to bear of the capacity expenses, and of the items of interest, taxes and depreciation. The grand total of all expenses, divided between public and private service, is shown below in Table XI. The determination of the respective proportions of the output expenses as charged in Table XI is indicated subsequently under the heading "Consumption".

TABLE XI.

DIVISION OF TOTAL EXPENSES BETWEEN PUBLIC AND PRIVATE SERVICE.

	Public.		Private.		Total.
	Per cent.	Amount.	Per cent.	Amount.	
CAPACITY EXPENSES.					
Operating expense	45	$3,815 74	55	$4,663 68	$8,479 42
Direct municipal	100	325 00	.....	.....	325 00
Interest, taxes and depreciation	45	20,047 50	55	24,502 50	44,550 00
	.....	$24,188 24	.....	$29,166 18	$53,354 42
Output expenses	1.2	113 05	98.8	9,307 93	9,420 98
Consumer expenses	.....	.....	100	5,578 30	5,578 30
Grand total	.....	$24.301 29	.....	$44,052 41	$68,353 70

CONSUMPTION.

Pumping statistics furnished by the company for the five years 1909 to 1913, each ending June 30, are as follows:

Year.	Total gallons pumped.	Gallons used for washing filter sand.	Gallons pumped into distribution system.
1909	432,503,710	3,417,270	429,086,440
1910	452,202,750	14,771,400	437,431,350
1911	416,876,090	5,654,410	411,221,680
1912	432,413,480	3,369,500	429,043,980
1913	465,673,100	2,005,020	463,668,080

The above figures are said not to include any quantities which may have been pumped twice, first to the filters and again to the distribution mains. The sums in the last or right hand column above are, therefore, the amounts to be accounted for. Metered consumption in each of these years appears to have been:

Year.	Gallons metered.	Per cent of total.	Services metered.	
			Number.	Per cent of total.
1909	101,823,750	23.73	328	17.5
1910	110,121,000	25.17	332	17.4
1911	104,043,000	25.30	460	24.2
1912	145,606,500	33.94	539	27.2
1913	162,941,250	35.15	555	28.0

In every water works system there is a considerable amount of the total pumpage which is lost and unaccounted for, due chiefly to unknown and unavoidable leakage. In the case of the Madison system, the report of the city engineer for the calendar year 1912 shows about 32 per cent of the total to be chargeable as "lost, unaccounted for, slippage, flushing mains, etc." In the 1912 report of the Milwaukee Water Works the amounts lost and unaccounted for, after making allowances for all legitimate public and private uses, were stated to be 17.27 per cent for 1912 and 18.27 per cent for 1911. In both these cities the percentage of consumers metered was about 99. These and a number of other cases appear to demonstrate that a substantial fraction of the total pumpage must be eliminated from consideration in determining the unit output charge in a rate schedule. The output expenses must be assessed against the amount of pumpage which can be reasonably shown to be used by the city and its citizens and for which collections may reasonably be expected.

The best distribution of the total pumpage which it now appears possible to make in this case in view of the lack of more specific data is the following:

		Gallons	
Total pumpage		463,668,000	
Deduct lost and unaccounted for (20%)		92,733,600	
Amount used		370,934,400	
Private Service			
Metered (588 meters)	162,941,250		
Flat rate (1,426 services)[1]	203,543,150		
		366,484,400	(98.8%)
Public Service (hydrants)			
Fire fighting	800,000		
Sewer flushing	3,150,000		
Washing pavements	500,000		
		4,450,000	(1.2%)
		370,934,400	

[1] Equal to 391 gallons daily per service as an average.

If the 20 per cent of pumpage here charged to water lost and unaccounted for is too great, the excess is the amount by which the flat rate service is relieved of its just proportion, since the metered consumption is a definite amount and the public consumption which is comparatively small is believed to have been closely estimated.

Private service, as here considered, includes the service of the public schools, police and fire department stations, city hall, public fountains and troughs, etc. Although metered by the company this service has, heretofore, been held to be covered in the hydrant rental and to be free of special charge. It appears that the city has used in its public buildings and fountains more than 20,000,000 gallons per annum during the last two years. This is in addition to the water used through the fire hydrants. The city has not only had its fire protection or hydrant service at less than cost, as indicated in our former decision respecting the Ashland plant *(City of Ashland v. Ashland Water Co.* 1909, 4 W. R. C. R. 273) but it has had free of charge this large amount of water for which it should have paid separately. It is noted that the water used in street sprinkling has been metered and paid for, and has amounted to approximately $200 per year for 1912 and 1913. The quantities so used, as shown by by the company's annual reports for those years, were respectively 1,920,000 and 1,311,000 gallons.

Output Costs.

The output costs are, as nearly as can now be determined, chargeable 1.2 per cent to the public or municipal hydrant service, and 98.8 per cent to all other, or private service. With a total output cost for operation only of $9,420.98 (Table X) and an output of 370,934,400 gallons used, the average unit output cost is about 2.54 cts. per thousand gallons or 1.9 cts. per 100 cubic feet. This would be the situation with all of the interest, taxes and depreciation as well as a part of the operating expenses considered as wholly capacity costs, as they are in reality. Theoretically they are to be earned irrespective of the amount of water pumped or used. Under old methods of rate making, which still have favor in the minds of some, all of the expenses of such a plant were considered as output expenses. The natural result of such methods is that a relatively small variation in the output produces a relatively large variation in net earnings.

To leave interest, taxes, depreciation and certain operating expenses entirely out of the output costs and charges, and to put them wholly in the service or fixed charges against consumers would result in an impracticable schedule, as the fixed or service charges would be greater than the value of the service to the smaller consumers.

Previous decisions of this Commission in similar cases have indicated that in making rates for private service the best treatment of the private service portions of the interest, taxes and depreciation is, usually, to divide their sum between capacity, output and consumer costs in the same proportions as the operating expenses are so divided. The proper classification and apportionment of the private service expenses then appear as follows:

COST OF PRIVATE SERVICE.

	Capacity.	Output.	Consumer.	Total.
Operating expenses	$4,663 68	$9,307 93	$5,578 30	$19,549 91
Interest, taxes and depreciation	5,845 13	11,665 92	6,991 45	24,502 50
Total	$10,508 81	$20,973 85	$12,569 75	$44,052 41

When the output expense of private service is made to include a portion of the interest, taxes and depreciation, as above, the average output cost is found to be 5.5 cts. per 1,000 gallons or 4.24 cts. per 100 cubic feet. The large difference between this rate and the company's present meter rate is due to the temporary elimination and separate treatment herein of the greater part of the expenses which are not dependent on the amount of water used. These expenses are discussed and explained under the head of "Capacity and consumer costs."

The total output expense of private service, amounting to $20,973.85, is found to be chargeable as follows, on the basis of the relative consumption of water by the two classes:

Metered service (44.46 per cent)	$9,325.00
Flat rate service (55.54 per cent)	11,648.85

Capacity and Consumer Costs.

Of the totals for these classes of expenses, there are some items chargeable wholly to metered service and others which must be apportioned between metered and flat rate service.

Capacity Expenses. The proportion of total interest, taxes and depreciation which is chargeable to meters alone, amounting to $913, requires separation from the capacity expenses before determining the amount of the latter due to flat rate service. After the deduction of the $913 belonging wholly to metered service, the remainder, $9,595.81, is considered fairly divisible equally between the two kinds of service. The consumers who are served through meters were found to have used very nearly as much water as those on the flat rate system. Metered consumers are certainly responsible for less waste of water, hence their demand rate is quite likely to bear a somewhat larger ratio to their consumption, or average use, than is the case with unmetered service. While no accurate measure of the relative maximum demands of the two divisions is available it seems quite certain that they can differ but little.

Capacity expenses are, therefore, separated as follows:

Metered service	$913.00	
	4,797.90	
		$5,710.90
Flat rate service		4,797.91
Total capacity cost		$10,508.81

Consumer Expenses. These were shown to aggregate $12,569.75. The direct operating expense portion of this amount is made up of items which are affected neither by the amount of water used nor the demand rates at which it is used, in whole or in part. Consumer expenses are those which depend primarily upon the number of consumers. Except for the cost of meter reading, more frequent billing and collecting from metered consumers, etc., they belong to all consumers alike. This raises the question as to the total number of consumers, also the question as to what constitutes a consumer.

In its annual report for the year ending June 30, 1913, the company reported a total of 1,981 consumers, classified as follows:

	Metered.	Unmetered.	Total.
Commercial			
Residences	283	1,309	1,592
Stores	17	5	22
Stores and residences (flats) [1]	54	4	58
Saloons	53	.....	53
Office buildings	8	3	11
Apartment houses	35	78	113
Hotels	9	.....	9
Boarding houses	14	2	16
Stables	7	5	12
Churches and halls	7	8	15
Private hospitals and schools	9	.....	9
Gov't and county buildings	3	.....	3
Industrial			
Breweries and bottling works	1	.....	1
Laundries	3	.....	3
Factories and warehouses	25	6	31
Fire sprinklers and hydrants	2	4	6
Railroad uses	9	1	10
Greenhouses	2	.....	2
Public (other than fire hydrants)			
Schools	6	.....	6
Police and fire department stations	3	.....	3
Public fountains and troughs	4	.....	4
ity hall	1	.....	1
Pest house	.....	1	1
Total	555	1,426	1,981

[1] One service for entire building.

It has since been learned that in many cases what the company had considered a single consumer was in reality what this Commission has held to be a group of consumers, each one of the group entitled to share in the consumer expenses. This has been clearly explained in earlier decisions in similar cases.

In reference to the metered class, it is found that when each separate apartment, suite, flat, office, store, etc., of a building is considered a consumer, as it should be, there were 945 consumers served through 555 metered services. On the 555 metered services are 588 meters, showing that some services have more than one meter for each.

The company's present flat rate schedule is apparently such as to provide for cases of more than one consumer being supplied through a single service. The total number of consumers to be considered is, therefore, the sum of 945 metered and 1,426 unmetered, or 2,371. Except for certain purely meter expenses the percentages of the consumer expenses belonging to these two kinds of service would be: metered, 39.86 per cent; unmetered, 60.14 per cent. The purely meter expenses consist of the costs of meter reading and more frequent billing and collecting than in the case of flat rate service. These can only be estimated. In

the absence of any evidence to the contrary, $1.00 per meter per year will be regarded as the proper amount to be charged wholly to metered service before applying the above ratios to the amount to be apportioned in that manner.

The earnings from these two classes separately for the year ending June 30, 1913, and the apportioned expenses which should be earned, according to the analysis previously made, are shown below:

PRIVATE SERVICE.

	Metered.	Unmetered.	Total
Expenses.			
Capacity	$5,710 90	$4,797 91	$10,508 81
Output	9,325 00	11,648 85	20,973 85
Consumer	5,363 93	7,205 82	12,569 75
Total expense	$20,399 83	$23,652 58	$44,052 41
Amount earned, 1912-13	20,910 41	19,014 59	39,925 00
Differences	$510 58	$4,637 99	$4,127 41

The total earnings from all private service are at least 10 per cent less than they should be. Those from metered service are somewhat in excess of the costs shown above, yet the meter rate schedule is not on the proper form. The earnings from flat rate service are only about 80 per cent of the expense which seems fairly chargeable to this class.

It is also to be remembered that the service to city buildings and fountains, which has been metered, has heretofore been free of charge. It is entirely separate and distinct from the municipal hydrant service and should bear its proportion of the total cost of service. If this is not done others must bear more than their proper proportions.

Meter Rates.

It has been found that metered service is chargeable with the following, in addition to a portion of the output costs:

Capacity expense	$5,710.90
Consumer expense	5,363.93

The former of these items belongs to the various metered consumers in proportion to the various individual demand rates, or, in other words, to the relative amounts of plant capacity re-

quired for the service of each. A small user does not make the same demand on a utility that a large user does, nor would a large number of small consumers put the same load on the plant that would be put upon it by the same number of large users. Obviously one to whom the utility may be called upon to furnish 50 gallons or more per minute may reasonably be required to bear a materially greater share of the capacity expenses than one who will never use more than 10 gallons or less per minute.

A strictly accurate measure of the maximum demand of each and every consumer is not obtainable. The nearest possible approach to it has been held to be the meter capacities, and yet some consumers will actually use more nearly all of their meter capacities than others having the same size of meters.

When the total number of meters of each size is multiplied by the relative capacity factor for that size (the factor being 1 for the 5/8″ size) and the sum of those products is divided into the capacity costs for metered service, it is found that the proper annual capacity charges per meter are substantially as follows:

5/8″ meter	$6.23
3/4″ "	12.46
1″ "	24.92
1½″ "	37.38
2″ "	62.30
3″ "	112.14
4″ "	224.28
6″ "	373.80

To the foregoing amounts, $1 per meter is to be added as a purely meter service expense.

The consumer costs for the metered class, after deducting the foregoing estimate of proper allowance for expenses due to the number of meters, appears to be $4,775.93. This is the amount which would strictly be divisible equally between all of the consumers supplied through meters. The average charge for each would be $5.05 per annum since there are 945 such consumers, and this charge would be applicable to the capacity and meter costs once for each consumer served through a single meter. The annual service charge for a 5/8″ meter, as determined by the foregoing analysis, would then be somewhat more than $12 with one consumer and a little over $17 with two consumers on the meter. These would be fixed charges and would not include the use of any water.

In contrast to the above fixed charges the present meter rate schedule has a minimum bill of $1 per month, or $12 per year, for 5/8″ meters; $2 per month or $24 per year for 3/4″

and 1″ meters; and $5 monthly for larger sizes, all these amounts allowing water to be used in such quantities as to produce those charges when computed at the primary rate of 22½ cts. per hundred cubic feet.

The result of the analysis and apportionment made is a schedule which, for practical considerations, requires some modification. The fixed or service charges are probably too burdensome to a large number of small users and together with the output costs for water used will doubtless make the total expense for water service seem out of proportion to its value. It is therefore essential that the capacity and consumer expenses of metered service be reduced by transferring a portion of them to the output expenses. When that is done the following is obtained as a reasonable and proper schedule of meter rates:

Service Charges per Annum with One Consumer on Each Meter.

½″ or ⅝″ meter	$9.00
¾″ "	18.00
1″ "	30.00
1½″ "	42.00
2″ "	68.00
3″ "	120.00
4″ "	216.00
6″ "	360.00

Each additional consumer in excess of one on one meter, $3.00.

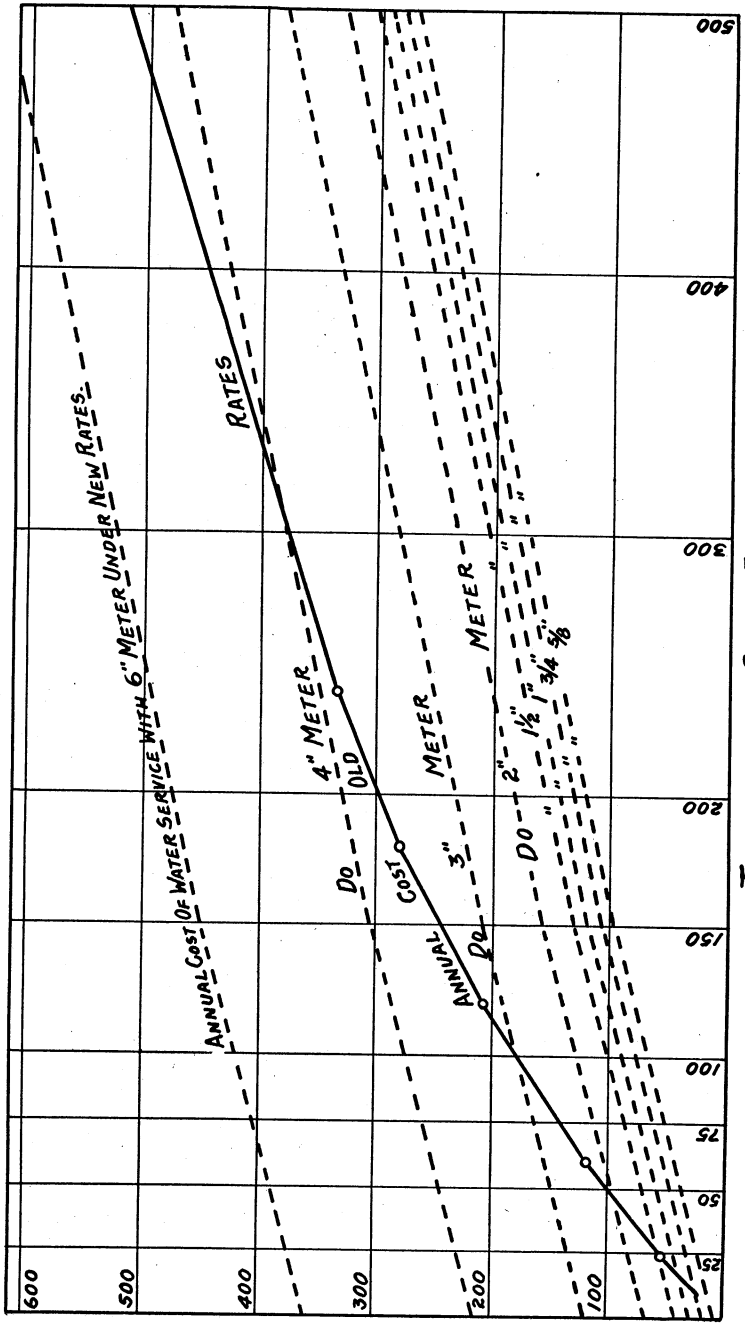
Output Charge.

12,500 cu. ft. or less per month, 6 cts. per 100 cu. ft.

Excess amounts at 5 cts. per 100 cu. ft.

In determining the service charges, each separate apartment, suite, flat, store, office or other division of a building shall be considered the premises of a separate consumer.

A comparison of the total annual costs of metered water service under the old and new rates is perhaps best made graphically. This is done by the diagram in Figure 1, which shows that for a ⅝″ meter (one consumer on a meter in each case) the cost is less for all quantities except a consumption of 5,000 cubic feet per year, or 102.5 gallons daily, for which quantity the cost is the same; for a ¾″ meter the cost is less for all quantities except when the consumption falls between 10,000 and 11,000 cubic feet per year, or between 205 and 226 gallons daily, when it is the same or but a few cents more under the new rates; for larger meters the cost is lessened by the new rates only when the consumption exceeds the amounts opposite the meter sizes shown below, the annual costs being increased by the new rates if the consumption is less than those amounts.


TOTAL ANNUAL COST - DOLLARS
600
500
400
300
200
100
25
50
75
100
150
200
300
400
500
THOUSANDS OF CUBIC FEET.
ANNUAL COST OF WATER SERVICE WITH 6" METER UNDER NEW RATES.
RATES
4" METER
DO
OLD
COST
ANNUAL
3" METER
DO
2" METER
DO
1½" " "
1" " "
¾" " "
⅝" " "

	Cu. ft. annually	or *gallons daily*
1" meters	17,500	358
1½" "	25,000	512
2" "	47,500	973
3" "	104,000	2,130
4" "	320,000	6,550
6" "	635,000	13,012

Meter Rentals. As the Public Utilities Law does not permit a difference in charges for like service between consumers who own their meters and those who do not, it has been necessary to include in our analysis the investment charges on the privately owned meters. The owners of those meters are legally and equitably entitled to a return of the capital charges so included, by the allowance of a meter rental which shall be deducted from the gross bill in each of such cases. The consumer's investment in a meter box or meter vault, if there be such, is not considered, as that is an expense which properly belongs to the consumers individually and not to the utility.

While it is recognized that the cost of a given size or meter is not the same for all types, it is impracticable to take each separate case into account and allow for minor variations. Several meter manufacturers have a common standard list of prices from which different discounts are sometimes allowed. On the basis of the most common list prices and the number of privately owned meters of each size the following are deemed just and reasonable allowance to consumers:

Meter Rentals per Month.

⅝" meter	$0.08
¾" "	.11
6" "	3.50

The utility's rules now in effect provide for monthly billing of, and collecting from, all metered consumers, while the flat rate users pay semiannually in advance. The practice of rendering meter bills quarterly or semiannually is apparently more common than the practice followed by this utility. The annual service charges arrived at above are in all instances, but one, easily divisible into convenient monthly, quarterly or semiannual charges. Although it is believed that there may perhaps be some reason for a change to quarterly collections of meter bills against the smaller users there is not clearly sufficient reason for requiring it. The change, however, is recommended.

FLAT RATES.

The earnings from flat rate service were shown to have been approximately 80 per cent of the costs apportioned to this class, or, expressed reciprocally, the costs are about 25 per cent more than the earnings.

The amount of water taken by each consumer can be closely determined only by a meter, hence it is impossible to do more than make what appears to be a reasonable estimate of the relative amounts used by each kind of flat rate consumer. It is to be remembered that the output costs are but a relatively small part of the total expense of water works service, so many large items are entirely independent of the amount of water used, therefore the amounts of water actually used by the various flat rate takers individually are of less importance than may seem, to some, to appear. A careful examination and consideration of the existing flat rate schedule leads to the belief that the charges provided by it bear fairly just relations, one with another, and that all may properly be increased in substantially equal proportions.

PRIVATE FIRE PROTECTION.

Under the heading of "Fire sprinklers and hydrants" in the consumer classification there are two metered and four unmetered services.

The present schedule of rates for service provides the following "Charges for private fire protection service, automatic sprinklers and hose outlets," used exclusively for fire protection in buildings:

"For each 1000 square feet of floor surface, or fraction thereof, per annum, $3, provided, that the amount of water rent paid for other purposes on the premises having fire protection fixtures, shall be abated to an amount not exceeding the charge for said fire protection, as per above.

"Outside Fire Hydrants, with outlets like, or similar to city hydrants, each per annum $50 and no reduction or abatement on account of water used for other purposes at the rate provided therefor."

Under these provisions of the existing rate schedule those consumers who have both private inside fire protection and other service get that other service free up to the amount of the charges for the fire protection, by the abatement clause. The full amount

of the fire protection charges are presumably assessed in any case.

The question of proper charges for private fire protection service was not touched upon in the hearings held in this case or in any arguments or exhibits presented. No satisfactory reason is known, however, which will justify any such abatement of charges.

If the furnishing of private fire protection service by a water utility which furnishes general or public fire protection constitutes a proper basis of charges, those who have it and who also use water regularly for other general purposes must unquestionably pay for both kinds of service.

But there is some question as to the extent to which the furnishing of private fire protection by a public utility constitutes a basis of special and individual charges. In several previous cases decided by this Commission it was held that individuals, firms and private corporations are not to be charged separately for any hydrant rental. The furnishing of fire protection of that character is clearly a function of the city. (See *In re Appl. Oconto City Water Supply Co.* 1911, 7 W. R. C. R. 497, 568; *City of Beloit v. Beloit Water, Gas & Electric Co.* 1911, 7 W. R. C. R. 187, 341; etc.)

Inside private fire protection, such as water service to automatic sprinklers and fire hose connections inside of buildings is a somewhat different form of protection. It is usually more quickly gotten into service when a fire starts and is universally considered as being more efficient than the use of ordinary fire hydrants by the fire department. Its presence frequently obviates the use of the outside hydrants and any work on the part of the firemen. It being usually more efficient in fire fighting, its installation produces a saving to the property owner through a reduction of insurance rates. It is of value to all concerned, but particularly to the property owner served. That it is of value to others may, under some circumstances, warrant the elimination of charges for such service, but the necessary circumstances do not exist here.

It is rather difficult to find a strictly logical and impregnable basis upon which to apportion to private fire protection service any definite amount of the expenses of the utility in this case, yet there is probably a more logical basis for the graduation of reasonable charges for such service than the basis of floor area

adopted by the company in formulating its present rate schedule. The floor area basis takes no account of the differences in property values per unit of floor area in different cases, or of the inflammability of the building and contents, the size of water service connection and the consequent demand for water put upon the utility in case of fire, or of various other differences.

The small number of users of such service in Ashland renders the question as to the amounts to be earned by the water company from it of relatively small importance. Previous earnings from four of these six consumers have presumably been included in the earnings from flat rate patrons, which aggregated only about 80 per cent of what such total earnings should be as a minimum.

Probably the most logical basis of such charges as may be made for private fire protection service is primarily that of the sizes and relative capacities of the connections from the mains, making due allowance for such constant or uniform expenses of the utility as cost of inspection, etc., and for the possible use of water, to the extent of undetected leakage at least.

Experience seems to make it perfectly clear that fire services require close inspection and supervision and that they should be metered. The cost of the meter and its installation and maintenance should be paid by the recipient of this special fire protection service, which is entirely different from the commercial service. Meter rates and service charges for private fire protection cannot properly include a very material capacity charge for the reason that the demand put upon the utility by the emergency use of private fires service facilities is simply a portion of the general fire service demand provided for in the public hydrant rental. Any fire occuring in an establishment not provided with the more efficient fire apparatus is very likely to put upon the water utility a greater demand, both in rate and duration, through the public hydrants, than would occur if the establishment were so equipped with special fire apparatus.

The general fire service requirements and the utility expenses charged to these requirements cannot well be apportioned to individual private buildings.

If the costs of metering a private fire service connection be paid by the water utility there is a sound basis for a charge sufficient to at least cover the capital charges on the meter and the expense of its maintenance. This will be an unquestionably

valid charge and will be larger than the probable cost of periodic inspections of private fire protection systems supplied on the flat rate basis as a matter of policy, to encourage the metering of such connections. The charge for metered service of this kind should be less than that for unmetered service, provided, however, that no water is used except for fire protection.

In the light of all the known facts and circumstances, of both general and special nature, attendant upon this class of service in Ashland, it is believed that the costs of fire service meters and their installation should be paid by the recipients of such service, and that the rates and charges for metered and unmetered private fire service should be as hereinafter provided and ordered.

SUMMARY

The character of the public water supply of Ashland is clearly not such as to encourage its free use, especially for drinking purposes. Changing conditions, over which the utility may be said to have had no control, have been chiefly responsible for the present general suspicion of and dissatisfaction with the water. The change from the present source of supply to any other would unquestionably involve an additional investment of such magnitude as to be, under the circumstances of this case, out of the question for the present or immediate future. The property of this utility is relatively so large and expensive as compared with that of other water utilities as to make its necessary rates and charges materially higher than ordinary water rates and to appear, possibly, to border on the burdensome.

The fact that the company in this case has had no means of informing itself continually as to the efficiency of its purification processes and the fact that the raw water undoubtedly varies widely in degree of pollution and in its disinfection requirements, together with the probability of improvement in the quality of the treated water by more scientific management of the treatment given, lead to the belief that the company should provide for some bacteriological laboratory work to be done on the water supplied the public. The possibility that the company may be able to make satisfactory arrangements with the city for the use and benefit of the city's chemical and bacteriological laboratory may perhaps obviate the necessity of a separate and similar but

private laboratory at the pumping station. The use of such facilities appears to be universally recognized as being highly desirable and beneficial in connection with the purification of impure waters.

The net earnings of the company have, almost throughout its entire history, been below the point of a fair and reasonable amount. During the past few years they have scarcely equaled 4 per cent on a reasonable valuation, when depreciation and all other legitimate charges and costs are provided for.

The greater portion of the deficiency in net earnings is reasonably chargeable to the public service, and the balance to the flat rate private service. The meter rates have yielded a fair proportion of the costs but the meter rate schedule is not of the most logical and desirable form.

The company's rules and its practices in regard to the furnishing of meters to all classes of private consumers are, on the whole, reasonable under all the circumstances of the case.

IT IS THEREFORE ORDERED:

1. That the Ashland Water Company shall make such arrangements as may be found necessary to give it the benefit of a suitable laboratory for water analysis in the city of Ashland and shall thereby keep itself continually informed as to the efficiency of its purification processes by analyses made at least once daily. It shall also keep in permanent record form the complete results of all such analyses.

2. The present schedule of rates for service shall be discontinued and the following rates, deemed just and reasonable, substituted therefor:

PUBLIC SERVICE.

Municipal hydrant rental, including the general fire protection and flushing of sewers and pavements until extended, per annum $24,300.

Additional, for extension of system, ordered by city.

Per foot of mains per annum.....$0.08

Per additional public fire hydrant, annually.....$6.50

Street Sprinkling.

PRIVATE SERVICE.

Meter Rates.

Service charge, one consumer on meter.

½" or ⅝" meter, per annum	$9.00
¾" " "	18.00
1" " "	30.00
1½" " "	42.00
2" " "	68.00
3" " "	120.00
4" " "	216.00
6" " "	360.00
Each additional consumer on meter	3.00

Each apartment, flat, suite, store, office, etc., shall be considered a separate consumer in determining service charges.

Output Charge

12,500 cubic feet or less per month, 6 cts. per 100 cubic feet.

Excess amounts, 5 cts. per 100 cubic feet.

FLAT RATES, per annum.

Alcohol, each barrel	$0.10
Ale cellar	10.00
Bakery each oven	10.00
Barber shop, one chair	7.50
each additional chair	4.00
Bath tub, private, used by one family	6.00
used by more than one family, each	4.00
Bath tub, public	12.50
Beer, each barrel brewed	0.07
Beer house	10.00
Billiard saloon, each table	4.00
Boarding house with sewer or cesspool connection, 7 rooms or less	12.00
each additional room	1.00
Boarding house without sewer or cesspool connection 7 rooms or less	9.00
Each additional room	.50
Bookbindery	10.00
Brickwork, per thousand	0.08
Candy manufacturing or confectionery	10.00
Church	6.00
Church baptistry	6.00
Cigar manufacturing, per hand	2.00
no license less than	10.00
Club room	20.00
Coffee saloon	6.00
Concrete work, per cubic yard	0.06
Drain shop	15.00
Dyeing and scouring	15.00
Forge, each	4.00
Fountain, standard, running not more than 4 hours per day, six months	12.00

Hall	$18.00
Hat manufacturing	15.00
Horse	2.00
Hose for private stable	
Hose for lawn or street sprinkling used not more than 4 hours daily for 6 months on 50 feet frontage or less	6.50
Additional frontage per foot	.12
Ice cream parlor	12.00
Livery stable per stall	3.00
Office	6.00
Oyster house	10.00
Photograph gallery	20.00
Plastering, per square yard	0.00¼
Residences without sewer or cesspool connection, one family, one faucet	
4 rooms or less	6.00
Each additional room	1.00
Residences with sewer or cesspool connection, 4 rooms or less, one family, one faucet	8.00
Each additional room	1.50
(Bath tubs, toilets, hose and other fixtures, charged separately, in addition.)	
Restaurant	20.00
Sales stables, per stall	2.50
Shop or store	12.50
Stonework per 100 cubic feet	.06
Tobacco factory, per hhd. manufactured	1.25
Urinal, private, self-closing fixture	2.50
" public, " "	6.00
" constant flow	10.00
Vegetable spray, per season	6.00
Vinegar, each barrel manufactured	.06
Washing bottles	6.00
Washing barrels each	.05
Water closet, private, used by one family	5.00
Used by more than one family, each	3.50
Public	10.00

PRIVATE FIRE SERVICE.

1. Unmetered service to automatic sprinklers or standpipes inside of buildings:

6" connection, per annum	$100.00
4" " "	50.00
3" " "	25.00
2" " "	15.00

2. Metered service to automatic sprinklers or standpipes,

(Cost of meter, its installation and maintenance paid by consumer, meter subject to inspection and approval of water utility).

Service charges per annum:

6" connection, per annum	$20.00
4" " "	15.00
3" " "	10.00
2" " "	8.00

Output Charges:

For all water except that actually used in fire fighting same as for commercial service.

3. Outside hydrants similar to city hydrants.

Charges to be added to city hydrant rental as per rates for additional city hydrants.

The foregoing rates shall be placed in effect at the end of the current period for which bills have been or will be rendered under the existing schedule.

Sixty days from the date hereof is deemed sufficient time within which to comply with the first provision of this order.

WILLIAM FRANZEN & COMPANY

vs.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY.

Decided Feb. 18, 1914.

The petitioner alleges that the charge of 7 cts. per cwt. assessed by the respondent for the transportation of two cars of bottles from Milwaukee to Waukesha was unusual and exorbitant to the extent that it exceeds the rate of 5 cts. per cwt. previously in effect and also in effect over other lines between the said points at the time the shipment moved. The respondent alleges that the 7 ct. rate was published in error and asks that the reparation requested be awarded.

Held: The rate exacted of the petitioner was unusual and exorbitant. The reasonable rate for the service rendered is 5 cts. per cwt. Refund is ordered on this basis.

The petitioner is engaged in the manufacture of bottles at Milwaukee, Wis. It alleges that on and between April 2 and 19, 1913, it shipped to the Milwaukee-Waukesha Brewing Company, Waukesha, Wis., two cars conveying bottles on which the respondent assessed charges at the 5th class rate of 7 cts. per cwt., or a total charge on the two cars of $50.82; that the said rate was unusual and exorbitant to the extent that it exceeded the rate of 5 cts. per cwt. which was previously in effect according to defendant's tariff G. F. D. No. 12200 and also in effect at the time the shipment moved over other lines between said points; that the petitioner was therefore overcharged 2 cts. per cwt. on said shipments, amounting in all to $14.52, for which amount it asks reparation.

The respondent, answering the petition, alleges that the present rate in effect applicable to such shipments is 5 cts. per cwt. and that the publication of the 7 ct. rate was made in error, and therefore asks that the reparation be awarded.

The matter was submitted upon the pleadings, correspondence, and documents on file.

We find and determine that the rate of 7 cts. per cwt., exacted of the petitioner by the respondent railway company on the

aforesaid shipments of bottles from Milwaukee to Waukesha, is unusual and exorbitant, and that the reasonable rate for the transportation services thus rendered is 5 cts. per cwt. The amount of the reparation to be awarded is as alleged, $14.52.

NOW, THEREFORE, IT IS ORDERED, That the Minneapolis, St. Paul & Sault Ste. Marie Railway Company be and the same is hereby authorized and directed to refund to William Franzen & Company the said sum of $14.52.

OWEN & BROTHER COMPANY

vs.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted Jan. 13, 1914. Decided Feb. 18, 1914.

The petitioner alleges that the rate of 8 cts. per cwt. which the respondent exacted together with a reconsignment charge of $2 for the transportation of a carload of barley from Janesville to Cudahy was unusual and exorbitant and asks for refund on the basis of a rate of 7 cts. per cwt., which is the rate from Janesville to Milwaukee, plus the reconsignment charge of $2 for transportation from Milwaukee to Cudahy. The respondent contends that the 8 ct. charge was correctly made on the basis of the 7 ct. rate from Janesville to Milwaukee plus a rate of 1 ct. from Milwaukee to Cudahy, but that no reconsignment charge should have been assessed. Since the petition was filed the respondent has put into effect the rate claimed as reasonable by the petitioner.

Held: The charge exacted was unusual and exorbitant. The reasonable charge for the service is 7 cts. per cwt. plus a reconsignment charge of $2 at Milwaukee. Refund is ordered on this basis.

The petitioner is a corporation engaged in the grain commission business at Milwaukee, Wis. It alleges that it was charged an unusual and exorbitant freight rate of 8 cts. per cwt. and in addition thereto a reconsignment charge of $2 on a carload of barley shipped from Janesville, Wis., to Cudahy, Wis., on October 16, 1913; that the legal and published rate in effect on barley in carload lots from Janesville to Milwaukee is 7 cts. per cwt. as per respondent's tariff effective March 17, 1913; that the respondent's tariff No. 11019–L, effective March 7, 1913, naming rules governing reconsignment of freight, provided as follows:

"Rule 5. On grain reconsigned from Milwaukee, Wis., to points on the Chicago & North Western Railway beyond Milwaukee, Wis., a reconsignment charge of $2 per car will be made."

"Rule 8. Grain arriving at Milwaukee, Wis., from all points via Chicago & North Western Railway will be reconsigned to Cudahy, South Milwaukee, or Carrollville, Wis., at a charge of $2 per car."

The petitioner further alleges that the respondent's tariffs G. F. D. No. 11019–M and No. 11019–N, effective since September 15, 1913, have been altered in their construction of the aforesaid Rule 8 in such a manner as to make a different application of rates and reconsignment charges than that governing under the previous tariffs; that the intent and application of Rule 8 in tariff G. F. D. No. 11019–L, effective March 7, 1913, and previous issues thereof, was to permit grain arriving at Milwaukee from all points on the respondent's lines to be reconsigned to Cudahy, South Milwaukee or Carrollville at a charge of $2 per car, without any additional freight charges beyond the rate applying from the point of origin to Milwaukee; and that the shipments here involved should have been charged at the rate of 7 cts. per cwt. with an additional charge of $2 for reconsignment to Cudahy. The petitioner therefore prays that the respondent be authorized and directed to make reparation to it in the sum of $6.98 on account of overcharge on the aforesaid shipment.

The respondent, answering the petition, alleges that the lowest rate applicable on the shipment mentioned was 8 cts. per cwt. based on a rate of 7 cts. to Milwaukee, and a rate of 1 ct. from Milwaukee to Cudahy; that said rate of 8 cts. was made up of the combination of locals on Milwaukee, and that therefore the reconsignment charge of $2 should not have been assessed.

The matter came on for hearing on January 13, 1914. The petitioner was represented by *George A. Schroeder,* and the respondent by *Robert Widdicombe,* its attorney.

It seems that there has been a misunderstanding relative to the application of the rule relating to the reconsignment of carloads of grain from Milwaukee to Cudahy, South Milwaukee or Carrollville. In the instant case the respondent, according to its tariffs, charged a rate of 7 cts. per cwt. from Janesville to Milwaukee, and 1 ct. per cwt. from Milwaukee to Cudahy. In addition to this a charge of $2 was made for reconsigning the shipment. It is contended on the part of the petitioner that the reconsignment charge was the proper one, but that the rate from Janesville and other points in the state on the respondent's line to Cudahy should be the same as to Milwaukee. The correctness of this view is scarcely open for argument. The distance from Janesville to Milwaukee is 77 miles, and to Chicago 91 miles. The rate from Janesville to Milwaukee or Chicago is 7 cts. The distance from Janesville to Manitowoc is 154 miles and the rate is

8½ cts. per cwt. The distance from Janesville to Cudahy is 85 miles by way of Milwaukee or 90 miles by way of Kenosha, yet the rate amounts to 8 cts. per cwt. The unreasonableness of the rate is conceded by the respondent. Since the filing of the complaint it has published a tariff establishing the rate from Janesville to Cudahy at 7 cts. per cwt. plus a reconsignment charge of $2 per car at Milwaukee. If this rate had been in effect at the time the shipment in question moved, the total charge paid by the petitioner on such shipment would have been $6.98 less than the charge exacted.

Under the circumstances we find and determine that the rate of 8 cts. per cwt. plus a reconsignment charge of $2 per car exacted of the petitioner on the aforesaid car of grain shipped from Janesville to Cudahy is unusual and exorbitant and that the reasonable charge for such transportation service is 7 cts. per cwt. plus a reconsignment charge of $2 at Milwaukee. The amount of the reparation that will be awarded is $6.98.

NOW, THEREFORE, IT IS ORDERED, That the Chicago & North Western Railway Company be and the same is hereby authorized and directed to refund to the petitioner, the Owen & Brother Company, the sum of $6.98.

MASON-DONALDSON LUMBER COMPANY
vs.
MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY.

Decided Feb. 18, 1914.

The petitioner asks for refund of certain switching charges paid on 200 cars of logs shipped to Rhinelander for delivery at the Stevens mill, on the ground that the practice exacting such charges was declared to be unreasonable and unjust in *Stevens Lbr. Co. v. C. & N. W. R. Co. et al.* 1913, 11 W. R. C. R. 476.

Held: The charges exacted were unusual and exorbitant. No charge should have been made for the switching service rendered. Refund of the amount paid is ordered.

The petitioner is a corporation engaged in the manufacture of lumber in the city of Rhinelander, Wis. It alleges that during January, February and March, 1913, it shipped from Driscoll Spur, Brantwood, Spur 187, Catawba and Spur 245, two hundred cars of logs to Rhinelander, Wis., for delivery at the Stevens mill; that it was obliged to pay in addition to the published tariff rate a switching charge of the Chicago & North Western Railway Company amounting to $2 per car, or a total of $400; that during the said period shipments of logs from the same and other points on the respondent's line into Rhinelander for delivery at the mills of Brown Brothers located on the tracks of the Chicago & North Western Railway Company and Robbins Lumber Company located on the respondent's tracks were delivered to the consignees free of such switching charge; that on February 25, 1913, the Commission made an order in the case of the Stevens Lumber Company against the respondent and the Chicago & North Western Railway Company (11 W. R. C. R. 476) abolishing such discrimination as unreasonable and unjust; that since said order the respondent has not exacted said switching charge of the petitioner; and that said charge exacted of the petitioner on the aforesaid shipments was illegal and exorbitant. The petitioner therefore prays that the respondent be authorized and directed to refund to it the said sum of $400.

The respondent railway company admits the allegations of the complaint and consents to the awarding of the reparation asked.

The matter was submitted on the pleadings, papers and documents on file. As the unreasonableness of the charge here in question was considered and passed upon in the case of the *Stevens Lumber Co. vs. the Chicago & North Western Railway Company and the Minneapolis, St. Paul & Sault Ste. Marie Ry. Co.* 1913, 11 W. R. C. R. 476, it is unnecessary to again consider the matter.

We find and determine that the charge exacted of the petitioner of $2 per car for switching at Rhinelander, Wis., on the aforesaid shipments of logs was unusual and exorbitant, and that no charge should have been made for such switching service.

NOW, THEREFORE, IT IS ORDERED, That the respondent be and the same is hereby authorized and directed to refund to the said petitioner the sum of $400.

BIG FOUR CANNING COMPANY

vs.

CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY COMPANY,
CHICAGO AND NORTH WESTERN RAILWAY COMPANY,
STANLEY, MERRILL AND PHILLIPS RAILWAY COMPANY.

Submitted Feb. 10, 1914. Decided Feb. 18, 1914.

The petitioner alleges that it was overcharged for the transportation of a carload of box shooks from Marinette to Stanley. The charge assessed by the respondents was based on a rate of 13 cts. per cwt. from Marinette to Eau Claire and a rate of 5 cts. per cwt. from Eau Claire to Stanley. Since the shipment moved the C. St. P. M. & O. R. Co. has put into effect a rate of 13 cts. per cwt. for shipments from Marinette to Stanley and the petitioner asks refund upon the basis of this rate.

Held: The charge complained of was unusual and exorbitant. The rate of 13 cts. per cwt. now in effect is the reasonable charge for the service rendered. Refund is ordered upon this basis.

The petitioner is a corporation and operates a canning factory at Stanley, Wis. It alleges that on September 5, 1913, there was shipped it from Marinette, Wis., a car loaded with 36,300 lb. of box shocks; that it was charged therefor a rate of 13 cts. per cwt. from Marinette to Eau Claire, which rate is carried in the respondent's, the Chicago, St. Paul, Minneapolis & Omaha Railway Company's, tariff G. F. D. No. 1360–C, and is subject to the minimum weight of 30,000 lb. as per Rule 1930, W. H. Hosmer's Rules Circular 1–J; that it was charged on said shipment from Eau Claire to Stanley a rate of 5 cts. per cwt., which rate is carried in Chicago, St. Paul, Minneapolis & Omaha Railway Company's G. F. D. No. 2400–A, effective July 17, 1912, subject to minimum weight of 30,000 lb.; that the rate from the first station south of Marinette to Stanley is 13 cts. per cwt., which rate was made applicable from Marinette to Stanley on November 12, 1913, in Supplement 32 to Chicago, St. Paul, Minneapolis & Omaha Railway Company's tariff G. F. D. No. 1360–C; that if the 13 ct. rate had been applicable to petitioner's shipment it would have been obliged to pay on said shipment $18.15

less than it actually paid. Wherefore, petitioner prays that reparation be made to it in the sum of $18.15.

The respondent railway companies, answering the petition, admit the above allegations and express a willingness to make the reparation asked if duly authorized to do so.

The matter came on for hearing on February 10, 1914, and was submitted upon the pleadings, papers and documents on file.

It is conceded that the charge exacted of the petitioner for the transportation services mentioned in the petition is unusual and exorbitant and that the rate of 13 cts. per cwt. now in effect and applicable to such shipments is a reasonable charge. We therefore find and determine that the joint rate of 18 cts. per cwt. exacted of the petitioner on the aforesaid shipment of box shooks from Marinette to Stanley was unusual and exorbitant, and that the reasonable rate that should have been in effect and applicable is 13 cts. per cwt. The amount of refund that will be awarded is $18.15.

NOW, THEREFORE, IT IS ORDERED, That the Chicago, St. Paul, Minneapolis & Omaha Railway Company, the Chicago & North Western Railway Company, and the Stanley, Merrill & Phillips Railway Company be and the same are hereby authorized and directed to refund to the Big Four Canning Company the said sum of $18.15.

COLFAX PRODUCE COMPANY

vs.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY.

Submitted Nov. 11, 1913. Decided Feb. 20, 1914.

The petitioner complains of the practice of the respondent in distributing cars to it in the month of September, 1913, for the shipment of potatoes at Colfax. The petitioner alleges (1) that the station at Colfax was not supplied with a sufficient number of cars to meet the requirements of shippers; (2) that the respondent wrongly discriminated against the petitioner in the distribution of cars; and (3) that the respondent failed to leave cars at the petitioner's warehouse a length of time sufficient for loading. The petitioner therefore prays that the respondent be required to pay to the petitioner such damages as the Commission upon investigation may determine are due the petitioner. At the time in question there was a car shortage due to the heavy grain movement from the west.

A railway company may not discriminate against any particular station in the distribution of equipment, but must furnish each station its equitable proportion of the available equipment. No one station, however, has the right to command the entire resources of the company to the exclusion or prejudice of other stations. It is the extent of the business ordinarily done on a particular line or at a particular station which properly measures the carrier's obligation to furnish transportation. *Ayres v. C. & N. W. R. Co.* 1888, 71 Wis. 372.

The contention of the petitioner that it should have been permitted to secure foreign cars directly from foreign companies is not in accordance with good practice as sanctioned by legal authority. In times of car shortage the prorating of cars among shippers must include private cars and cars of foreign lines consigned directly to shippers.

In prorating cars among shippers at a station in times of car shortage consideration must be given to the volume of business done by each shipper, the character of the commodities to be shipped, the necessity for the immediate movement of certain commodities, the climate and character of the weather and perhaps other facts. There is no hard and fast rule by which the matter can be determined. All that the law requires is that the carrier act justly and fairly in distributing its cars.

Held: The evidence does not sustain the petitioner's contention that the respondent in distributing its cars discriminated against Colfax as a station and against the petitioner as an individual shipper. The limitation in the length of time allowed the petitioner for loading cars at its warehouse appears, in view of the small station and limited sidetrack facilities at Colfax, to have been reasonable.

The petition is dismissed.

The petitioner is a corporation engaged in buying, selling and shipping potatoes to Colfax, Wis. It alleges that the respondent railway company has failed and neglected upon reasonable notice and when it was within its power to do so, to furnish suitable cars to the petitioner to ship its produce in carload lots when such cars were available at that point; that during the time between September 14 and September 26, 1913, there were at Colfax insufficient cars to meet the immediate requirements; that the respondent wrongfully discriminated against the petitioner in the distribution of said cars; that it failed to leave cars at the warehouse of the petitioner more than five hours, which length of time was not sufficient to allow the petitioner to load; that after cars were furnished to the petitioner, the respondent insisted that the cars be shipped to a certain point other than the point designated by the petitioner, whereby the petitioner has suffered damage in the sum of $1,000 by reason of the failure of the respondent to give adequate service. Wherefore, the petitioner prays that the respondent be required to pay to the petitioner such damages or loss as the Commission upon investigation may determine is due the petitioner.

No answer was filed by the respondent.

The hearing was held on November 11, 1913, at the office of the Commission at Madison. *R. E. Bundy* represented the petitioner and *Kenneth Taylor* appeared on behalf of the respondent.

The town of Colfax is situated in an extensive potato producing district. From six to eight hundred cars are shipped from this point annually. The petitioner is a corporation organized for the purpose of buying and shipping potatoes and marketing them where the greatest profit can be obtained for its stockholders. There are also a number of other buyers located at Colfax, both local and nonresident, who are not members of this corporation, but who buy and ship independently.

About September 12, 1913, the petitioner began making its purchases. It bought two carloads or about 1,853 bushels the first day and each succeeding day in the month of September its receipts increased until some days as high as eleven carloads were received. At first sufficient cars were obtained by ordering daily through the local agent of the respondent, but soon a scarcity of cars was pleaded by the respondent's agent, on the ground that all the respondent's system cars were needed for shipping grain in other states.

Although a number of other potato buyers shipping out of Colfax are inconvenienced by the inability to obtain cars they do not complain for the reason, the petitioner alleges, that they are competitors of the petitioner and know that such a car shortage embarrasses the petitioner in the conduct of its business.

The petitioner also contends that while the respondent refused to supply it with system cars, as these cars were being used for grain shipments, it did not attempt to control the use of foreign cars used and hauled over its lines, but allowed the companies owning such cars to designate the parties to whom the cars were to be delivered and by whom they were to be used. The ability to thus acquire foreign cars was not known to the petitioner, but it did know that in former years it could secure cars from the Illinois Central Railroad Company through a traveling agent who went among shippers offering his cars. Acting upon this information it wrote to the Illinois Central Railroad Company office in the city of Milwaukee requesting cars, but the request was denied on the ground that the order must be filed through the office of the superintendent to prevent any discrimination in the distribution of cars. Upon the receipt of the reply to its letter the petitioner placed an order for refrigerator cars with the respondent's local agent at Colfax. The agent informed the petitioner that some sixteen cars had been distributed by him in a manner which he deemed equitable regardless of specific orders that had been given for foreign cars. He would not recognize such orders, but distributed such cars as they were billed.

The petitioner further claims that it thereupon notified the respondent's agent on October 15, 1913, that it would use box cars if it could obtain them and would, up to November 1, assume all risks of frost in transit, but received no reply. The petitioner then repeated its offer on October 24, 1913, and on the evening of October 28, the respondent wired the acceptance of the offer, but the season had so far advanced as to render the use of box cars impracticable. On the other hand, the respondent declares that the petitioner's offer to use box cars was first sent to it on October 24; that it had its representative check up the distribution of cars at Colfax during the period in question and that this checking showed that out of a total of 495 cars delivered at Colfax to thirteen different shippers between September 11 and November 9, inclusive, 116 were delivered to the petitioner.

Only one shipper, A. Miller & Co., received a larger number than the petitioner. The distribution seemed to be upon an equitable basis according to the amount of produce handled by each shipper. A statement was shown of produce on hand on October 3, by four of the largest shippers:

On hand Oct. 3, 1913:

A. Miller & Co	1,270,250 bu.
Stark & Hurd	528,625 "
Colfax Produce Co	450,000 "
C. E. Healey	330,000 "

It seems that petitioner's statement that up to September 27 it had received only fourteen cars was in error as the checking of distribution upon the agent's record from September 18 to 27, inclusive, shows that the Colfax Produce Company was furnished with cars as follows:

Sept. 18	2
" 19	4
" 20	4
" 21 (Sunday)	
" 22	2
" 23	5
" 24	1
" 25	6
" 26	3
" 27	7

In the petition three grievances are set forth: First, that the station at Colfax was not supplied with a sufficient number of cars to meet the requirements of shippers; second, that the respondent wrongfully discriminated against the petitioner in the distribution of cars; and third, that the respondent failed to leave cars at the petitioner's warehouse a length of time sufficient for loading. The latter ground of complaint was passed over upon the hearing as the conditions at the Colfax station were such that probably not more than five hours could at times be given to any shipper for the loading of potatoes. This is a small station and the sidetrack facilities are limited. Upon the question of an insufficient number of cars being furnished at Colfax to meet the requirements of the shippers during the time in question, it may be stated that the evidence does not sustain the petitioner's contention. At such time there was a car shortage due to the heavy grain movement from the West. All available equipment was in service. No station of any consequence on the respondent's line could be furnished upon demand with the num-

ber of box cars and other cars suitable for the shipment of potatoes when demanded.

It is true that a railway company can not discriminate against any particular station in the distribution of equipment, but must furnish each station its equitable proportion of the available equipment.

In *Ayres v. C. & N. W. R. Co.* 1888, 71 Wis. 372, the court says:

"It must be remembered that the defendant has many lines of railroad scattered through several different states. Along each and all of these different lines it has stations of more or less importance. The company owes the same duty to shippers at any one station as it does to the shippers at any other station of the same business importance. The rights of all shippers applying for such cars under the same circumstances are necessarily equal. No one station, much less any one shipper, has the right to command the entire resources of the company to the exclusion or prejudice of other stations and other shippers. Most of such suitable cars must necessarily be scattered along and upon such different lines of railroad, loaded or unloaded. Many will necessarily be at the larger centers of trade. The conditions of the market are not always the same, but are liable to fluctuations, and may be such as to create a great demand for such cars upon one or more of such lines, and very little upon others. Such cars should be distributed along the different lines of road, and the several stations on each, as near as may be in proportion to the ordinary business requirements at the time, in order that shipments may be made with reasonable celerity. The requirement of such fair and general distribution and uniform vigilance is not only mutually beneficial to producers, shippers, carriers, and purchasers, but of business and trade generally. It is the extent of such business ordinarily done on a particular line or at a particular station which properly measures the carrier's obligation to furnish such transportation. But it is not the duty of such carrier to discriminate in favor of the business of one station to the prejudice and injury of the business of another station of the same importance."

Relative to the complaint that the petitioner was discriminated against in the distribution of cars and that it should be permitted to secure foreign cars directly from foreign companies, it may be said that permitting shippers to thus draw upon general railway equipment is not in accordance with good practice as sanctioned by legal authority. In times of car shortage the prorating of cars among shippers must include private cars as well

as cars of foreign lines consigned directly to shippers. It is true that private car companies have more or less control over their equipment because of contractual relations with shippers, yet, when it comes to dealing with system cars and foreign cars the company on whose lines the freight originates should have control as far as possible of the distribution of these cars in order to prevent discrimination between shippers. Consequently, the practice of the Illinois Central Railroad Company in billing empty cars direct to shippers was discontinued, and all such cars could be made available only through the superintendent's office, which was charged with the duty of making proper distribution of cars at stations.

It seems to be well established that in times of a shortage of cars, the cars allotted to any station should be prorated among the various shippers at such station upon an equitable basis. In doing this, various elements must be taken into consideration. Among these are the volume of business done by each shipper, the character of the commodities to be shipped, the necessity for the immediate movement of certain commodities, the climate and character of the weather, and perhaps other considerations. All that the law requires is that the carrier acts justly and fairly in making the distribution of cars. There is no hard and fast rule by which the matter can be determined. In each case it must be determined by the information at hand and according to the best judgment of the person charged with the duty of making the distribution.

In the instant case it would seem from the number of cars the petitioner received, taking into consideration its daily receipts, as compared with the number of cars received by other shippers at the same station, taking into consideration their daily receipts, there was no ground for complaint under the circumstances of the apportionment.

In considering the matters in issue, we have laid aside the question of the jurisdiction of this Commission because of the fact that the cars were required for interstate shipments, and have determined these matters on their merits.

For the reason above stated the petition will be dismissed.

NOW, THEREFORE, IT IS ORDERED, That the aforesaid petition be and the same is hereby dismissed.

AUGUST RUEDEBUSCH
vs.
CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Submitted Oct. 14, 1913. Decided Feb. 24, 1914.

This proceeding is in effect a continuation of a previous proceeding of the same title in which a decision was rendered through error on July 11, 1913, 12 W. R. C. R. 248. The petitioner alleges that the distance tariff rate exacted on shipments of brick within the yard limits of Mayville, from the petitioner's brickyard to the plant of the Northwestern Iron Co., is excessive and unreasonable as compared with flat rates charged other industries for the movement of commodities within the yard limits. Certain of the flat rates mentioned are a part of concentration rates on raw materials.

Held: The petitioner's shipments were not entitled to concentration rates inasmuch as the movements involved were purely terminal movements. The rate complained of, however, is unreasonably high. The reasonable rate would have been 1 ct. per cwt.

It is ordered that the respondent (1) establish a rate of 1 ct. per cwt., with a minimum of $6.00 per car, for the switching of cars between points within the yard limits of Mayville; and (2) make refund to the petitioner upon the basis of this rate.

August Ruedebusch is a manufacturer of brick at Mayville on the Northern division of the Chicago, Milwaukee & St. Paul Railway in Dodge county. His yard is located within the corporate limits of Mayville, directly on the line of the railroad, and about a half a mile south of the Mayville station. North of the city limits about half a mile, and approximately a mile and a half from the brickyard, are located the coke works of the Northwestern Iron Company, recently constructed.

Mr. Ruedebusch took the contract to furnish the brick for the construction of the new portions of the Northwestern Iron Company's plant. He assumed in taking the contract that he could obtain either the $3 or $5 rate which was charged certain other industries within the yard limits of Mayville. Upon consulting the agent he learned that such rates applied only on certain commodities between certain points and that he must pay the distance tariff of 2 cts. per cwt. as prescribed in G. F. D. No.

6500 A. Mr. Ruedebusch appealed to the Commission and was advised to consult the general freight department of the Chicago, Milwaukee & St. Paul Railway Company, requesting the establishment of a switching rate for hauling brick. Upon the railway company's refusal to establish such a rate Mr. Ruedebusch formally appealed to the Commission for relief, basing his claim upon a carload of brick shipped from the brickyard on October 14, 1912, to the new coke plant of the Northwestern Iron Company, the charges upon which were $12.58. The Chicago, Milwaukee & St. Paul Railway Company, through its commerce counsel, O. W. Dynes, responded that because of the lack of data supplied in the complaint it was unable to check the rate as to its correctness or to definitely state the position of the company.

A hearing in the matter was held October 14, 1913, at the capitol in the city of Madison, at which *August Ruedebusch* appeared in his own behalf and *J. N. Davis* on behalf of the Chicago, Milwaukee & St. Paul Railway Company. This hearing is, in effect, a continuation of the case after the Commission, acting under mistake, had promulgated its decision. The defendant in this case had requested that another formal hearing be called at which both parties might be present and the defendant might introduce additional testimony.

The Northwestern Iron Company maintains a stock pile where the coke, shipped from Milwaukee, is kept pending its use by the company. When cars of this coke are taken from the stock pile to the company's furnace trestle, the respondent does the hauling at the rate of $3 per car, under G. F. D. No. 4900 C. The Northwestern Iron Company also enjoys a rate of $5 per car for the switching of its cars of pig iron from its furnace to its storage yard. Either one of these movements is less than a mile and a half. Also under tariff A A 10709 crushed stone is handled from the Mayville White Lime Kilns, south of the city, to Mayville for $5 per car and under tariff A 2856 crushed stone and ore are moved from Knowles, Neda and Iron Ridge to points within the Mayville yard limits at $2 per car in hopper cars of 40,000 and 60,000 lb. capacity, and in hopper cars, gondolas and other equipment of larger capacity at $3 per car. No one of the outside points mentioned is more than eight miles distant from Mayville.

It appears that the resopndent company keeps two locomo-

tives at Mayville for switching purposes, working the territory between Knowles on the north and Iron Ridge on the south. The operations of the Northwestern Iron Company and the several quarries and lime kilns in this region are of sufficient magnitude to warrant the keeping of these locomotives for the purpose. One of the locomotives in the conduct of its regular business also handled the cars of brick from the yard of the plaintiff to the yard of the Northwestern Iron Company where the construction of portions of the plant was under way. Thus these movements of cars of brick are purely and simply terminal movements.

Mr. Ruedebusch has shipped brick within this district to other points than the Northwestern Iron Company's plant in Mayville and has been charged for the services at the regular distance tariff of 2 cts. per cwt. However, the lower rates on ore, crushed stone (flux) and coke referred to above are in reality parts of concentration rates. By no process of reasoning can the cars of brick from the yard of the plaintiff to Neda and Iron Ridge be construed as shipments of raw material, possibly subject to a concentration rate. Therefore we must eliminate the cars of brick shipped to these points and confine the decision to cars shipped from the brickyard to the plant of the Northwestern Iron Company.

The respondent in this case introduced an exhibit purporting to show that the cost of handling the car in question was $9.68 including in such cost estimate an allowance for return upon the investment. No evidence was submitted by the petitioner tending directly to verify or refute the cost as computed by the respondent. The former pointed rather to the existence of rates lower than the one charged in his case and covering switching movements in the same terminal, contemporaneously performed and of a similar nature.

It was testified at the hearing that the average weight of a carload of brick is 56,000 lb., but from other evidence in the hands of the Commission the average loading appears to be considerably above this figure, or about 69,000 lb. It was stated, further, that during the year 1912 thirty-four cars of brick were shipped to the Northwestern Iron Company and that this was the largest number of cars ever forwarded to that company. It seems not unreasonable, therefore, to hold that the movements under consideration were unusual movements, that they

are not properly classified as concentration movements and hence are not entitled to differential rates. In other words, the shipments under consideration, as well as any future shipments of a similar character, move under conditions which require that the charges upon each car shall be reasonably compensatory for the service performed. What the rate under such conditions should be is determined primarily from the cost of the service, including in such cost a reasonable allowance for interest upon the investment.

As stated above, the respondent in his exhibit estimates the cost, including return to the carrier, to be $9.68 for each car handled. It is significant that according to the carrier's own estimate the charges on the car in question exceed the estimated cost by $2.90. The Commission, on its part, has thoroughly investigated the cost incident to the handling of all traffic within the yard limits of Mayville. Its investigation was directed not only towards a determination of the cost of the individual movements of brick but of all the terminal movements made at Mayville. In determining the cost due consideration was given to the varying length of the movements, whether performed by road trains or in ordinary switching service, and in general the variable factors that increase or decrease cost above the average of all traffic were taken into account. A liberal allowance was included as a return upon the investment actually used and useful in performing the service. The results of this study would seem to indicate that the cost per car as determined by the respondent is altogether too high and that the reasonable cost is somewhere in the neighborhood of $6 per car. When in the case of movements of brick, a commodity of low specific value, the charges upon a reasonable minimum loading of 60,000 lb. are $12 per car, while the reasonable cost of rendering the service does not seem to exceed $6 per car, we cannot help but conclude that the rate complained of is unreasonably high and should be reduced.

It was suggested at the hearing by counsel for the respondent that if the Commission found that the Wisconsin distance tariff rate should not be applied to the movements here considered a rate per 100 lb. be fixed instead of a blanket switching rate. This suggestion is quite in line with the general policy of the Commission in regard to switching rates.

From the facts in this case we find and determine that the

reasonable rate for the switching of cars of brick from the brickyard of the plaintiff to the plant of the Northwestern Iron Company by the respondent should not have exceeded 1 ct. per 100 lb. and that the petitioner is entitled to a refund upon the basis of this rate.

Should the parties to this case be unable to come to an agreement as to the amount of the refund ordered herewith, recourse may be had to the Commission.

IT IS THEREFORE ORDERED, That the respondent, the Chicago, Milwaukee & St. Paul Railway Company, establish a rate of 1 ct. per 100 lb. with a minimum of $6 per car for the switching of cars between points within the yard limits of Mayville; and that the respondent refund to the petitioner, August Ruedebusch, an amount equal to the difference between the actual charges paid on cars of brick from the brickyards to the Northwestern Iron Company's plant, and charges on such shipments at 1 cent per 100 lb. minimum $6 per car, in the period between August 19, 1912, and the date that this order is effective.

LEONARD SEED COMPANY

vs.

CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY COMPANY,
CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Submitted Nov. 11, 1913. Decided Feb. 24, 1914.

The petitioner alleges that the rate of 32.5 cts. per cwt. exacted by the respondents for the transportation of seed peas in carloads from River Falls to Columbus is exorbitant when compared with rates from other points to Columbus and asks for refund on a certain shipment on the basis of a rate of 20 cts., which is the regular 5th class St. Paul to Chicago rate.

Held: The rate complained of is excessive and the petitioner is entitled to refund. The respondents are ordered: (1) to substitute for this rate a rate of 20 cts. per cwt. on dried and seed peas in carloads at minimum weight of 36,000 lb. per car; and (2) to make refund to the petitioner on this basis.

The petitioner is engaged in the wholesale business of growing and selling peas for seeding purposes. On or about August 28, 1912, it shipped a carload of seed peas weighing 77,000 lb. from River Falls to Columbus on which the freight charges amounted to $250.25. The paid freight bill shows that the shipment moved via the Chicago, St. Paul, Minneapolis & Omaha Railway on local billing River Falls to Camp Douglas at the rate of 19 cts. per 100 lb. and via the Chicago, Milwaukee & St. Paul Railway on local billing Camp Douglas to Columbus at the rate of 13.5 cts. per 100 lb., making a through rate of 32.5 cts. the total charges as stated. This through rate, the petitioner alleges, is exorbitant when compared with rates of 19 and 20 cts. on seed peas shipped by the petitioner from points further distant from Columbus and from points within twenty or thirty miles of River Falls to Columbus.

Hearing was held in the office of the Commission at Madison on November 11, 1913. *John S. Geary* appeared for the petitioner and *J. M. Davis* for the Chicago, Milwaukee & St. Paul Railway Company.

From the testimony taken at the hearing it appears that the

petitioner grows peas at points in Wisconsin and Minnesota, including Antigo, Lake Mills, Columbus, Pepin and Hager, Wis., and Spring Valley, Minn., where soil conditions are found to be suitable, and ships the crops from such points to its storage and cleaning houses at Antigo, Marshal and Columbus, Wis., and Chicago, Ill., according to the point at which the crops may be most economically taken care of and the point to and from which they may be most economically shipped. Considerable acreage was secured a year ago in the vicinity of River Falls, Baldwin and Menomonie, and the conditions for growing peas there found suitable, but owing to the high freight rates from these points to Columbus no acreage was secured there this year. With favorable rates from these points to Columbus the petitioner could do considerable business there. A number of rates applying on seed peas were referred to by way of comparison with the rate against which complaint is made. These rates are shown, as are also the tariff routing and the distance involved, in the following table prepared by the Commission:

RATES IN CENTS PER 100 LB. ON SEED PEAS, CARLOADS, AND DISTANCE IN MILES BETWEEN POINTS NAMED.

From	To	Via junction point.	Distance.			Rate.
			To jct.	From jct.	Total.	
River Falls	Columbus	Camp Douglas	173.2	77.4	251	32.5
Hager	"	[1]Prairie du Chien	152.0	153.3	305	20.
"	"	[2]La Crosse	92.9	132.7	226	20.
Pepin	"	[1]Prairie du Chien	127.1	153.3	280	20.
"	"	[2]La Crosse	68.0	132.7	201	20.
Antigo	"	Watertown	162.2	19.6	182	16.
Loyal	"	Portage	120 0	28.4	148	16.
Rhinelander	"	Heafford Jct	17.0	210.1	227	18.
Ashland	"	Portage	258.0	28.4	286	22.
Gleason	"	Local	.....	.....	200	18.
Spring Valley, Minn	"	"	.....	.....	207	20,
River Falls	Chicago	Elroy	186.6	203.9	391	20.
Ashland	"	Local—Soo	.....	.....	438	22.
Antigo	"	" —C.& N.W	.....	.....	263	18.

[1] Prior to Feb. 4, 1913.
[2] Since Feb. 4, 1913.

The rates shown in the above table are the regular 5th class rates subject to minimum weight of 36,000 lb. as provided for seed peas in western classification.

The petitioner's shipments usually load to the capacity of the car and sometimes 10 per cent over the capacity. The ship-

ment complained of amounted to about 1,300 bushels. Its value was about $1.85 per bushel which was said to be a fair average price for the commodity. This would make the total value of the shipment $2,400. The petitioner's business at Columbus last year amounted to about seventy-five carloads. Nothing was said as to the amount handled at the other points, Antigo, Marshall and Chicago, where the petitioner also maintains cleaning and storage houses, but witness stated that the petitioner expected to handle 150,000 bushels of peas in 1913. There is some loss and damage in connection with the traffic. The petitioner's claims for loss in 1912 amounted to about $140 or $150 and his claims for damage to about the same.

The respondents are willing to refund on the shipment involved on the basis of a through rate of 27 cts. which is the sum of the rates applicable River Falls to Watertown via the Chicago, St. Paul, Minneapolis & Omaha and the Chicago & North Western railways and Watertown to destination via the Chicago, Milwaukee & St. Paul Railway, but dislike to establish joint through rates on one commodity between points where there is so little movement as in the instant case. The petitioner, however, is not willing to accept settlement on this basis for the reason that rates from other points in the vicinity of River Falls to Columbus are lower. He believes that River Falls to Columbus shipments are entitled to a 20 ct. rate.

The foregoing covers the main facts involved in this case. On the basis of comparison alone the River Falls-Columbus rate should be 20 cts. This is the regular 5th class rate between St. Paul, etc. and Chicago, Milwaukee, etc., applying locally via all lines entering these points. It applies as a maximum rate between all points usually taking St. Paul, Chicago, etc. rates, which, generally speaking, include all Minnesota, Wisconsin and Illinois points intermediate on all lines between St. Paul, Chicago, etc., also numerous other points including many points on branches from main line points and many on connecting lines.

This general application exists likewise in connection with all St. Paul, Chicago, etc. class and commodity rates. The respondents, however, do not provide for the application of these rates, nor, for that matter, for any joint rates between points on their respective lines except, perhaps, an odd rate here and there that

would easily be overlooked in making an examination of general conditions.

Prior to April 26, 1913, the respondents had in force joint through class rates on agricultural implements and parts thereof and vehicles and parts thereof as described in western classification, exceptions thereto contained in Western Trunk Lines Rules Circular, and on windmills and parts thereof, in straight or mixed carloads with agricultural implements, also on gasoline engines and parts thereof in mixed carloads with agricultural implements and windmills and parts thereof. These rates applied on the commodities named, between all points on the respondents' lines in Wisconsin, also points on these lines in Illinois, Iowa, Michigan, Minnesota, South Dakota and Nebraska, as provided for in tariff Chicago, St. Paul, Minneapolis & Omaha G. F. D. No. 2444, which took effect January 27, 1910, and was canceled on the date mentioned above. An examination of the tariff shows that the rates named therein between points in the Chicago-St. Paul territory referred to above, including River Falls and Columbus, were the single line rates between St. Paul and Chicago. Under the basis of the rates named in this tariff, therefore, any of the articles described, if classified as 5th class, would take a rate of 20 cts. per 100 lb. between River Falls and Columbus.

The general freight agent of the respondent Chicago, St. Paul, Minneapolis & Omaha Railway Company in a letter addressed to the Commission under date of March 28, 1913, asking the Commission's approval of changes in rates, intended to be brought about by the cancellation of rates named in Chicago, St. Paul, Minneapolis & Omaha G. F. D. No. 2444, referred to above, asserted that upon investigation the Commission would find that these rates have not been used on Wisconsin intrastate traffic on account of being higher than rates in effect from other manufacturing points. Since the cancellation of these rates the Commission's attention has been called to the fact that they were used to some extent while in force. These rates, however, are not in any way involved in the case under investigation. They are referred to merely as tending to show the conditions under which the respondent carriers voluntarily published joint though rates and the basis upon which such rates were established.

In the case under investigation the facts at hand indicate that there is not likely to be a great amount of peas shipped from River Falls to Columbus, even with a rate in force that is entirely satisfactory to the petitioner, nevertheless it appears that there are reasonable grounds for complaint and for the granting of relief. From a careful consideration of all the matters brought out in the case we are of the opinion that the rate on dried peas, carloads, minimum weight 36,000 lb. per car, from River Falls to Columbus should not exceed the 5th class St. Paul-Chicago rate of 20 cts. per 100 lb., and that the charges complained of on the shipment involved in this case are excessive insofar as they exceed charges based on this rate. The shipment weighed 77,000 lb. At a rate of 20 cts. the charges would amount to $154. There are, therefore, excessive charges amounting to $96.25, refund of which will be authorized.

NOW, THEREFORE, IT IS ORDERED, That the respondents cease and desist from charging the rate of 32.5 cts. per 100 lb. on dried or seed peas, carloads, minimum weight 36,000 lb., from River Falls to Columbus and substitute therefore a rate of 20 cts. per 100 lb. at minimum weight of 36,000 lb. per car.

IT IS FURTHER ORDERED, That the respondents be and they are hereby authorized and directed to refund to the petitioner the sum of $96.25 which is hereby declared to have been paid in excess of a reasonable amount of charges on the shipment involved in this complaint.

N. H. JOHNSON ET AL.
vs.
READFIELD TELEPHONE COMPANY,
FREMONT TELEPHONE COMPANY.

Submitted Feb. 19, 1914. Decided March 4, 1914.

The petitioners, who are subscribers of the Readfield Tel. Co., ask that physical connection be established between the lines of the Readfield Tel. Co. and those of the Fremont Tel. Co. in such manner as to enable the subscribers of the two companies to communicate with the village of Fremont and the village of Readfield. The telephone companies are willing to make the desired connection upon proper terms and conditions.

It is ordered that the physical connection requested be made. A toll of 10 cts. per message is to be exacted from parties desiring limited service and a monthly charge of 25 cts. from those desiring unlimited service. Each company is to retain the revenues originating on its own lines.

The petitioners are subscribers of the Readfield Telephone Company and ask that a physical connection be made between the lines of the Readfield Telephone Company and those of the Fremont Telephone Company so as to enable the petitioners and other subscribers of the Readfield Telephone Company, as well as the subscribers of the Fremont Telephone Company, to communicate with the village of Fremont and the village of Readfield.

The Fremont Telephone Company has expressed its willingness to make the desired connection. The Readfield Telephone Company does not oppose the connection but requests that it be made upon proper terms and conditions.

The matter came on for hearing February 19, 1914. The petitioners were represented by *William Rhinehart* and the Readfield Telephone Company by *Charles F. Schneider.*

It appears that the Readfield Telephone Company maintains an exchange in the village of Readfield situated in the town of Caledonia, Waupaca county, and has lines extending to the various parts of said town as well as into the adjoining town of Wolf River on the south, which is in Outagamie county. One of its lines extends from Readfield westward toward Fremont

as far as the town line. The Fremont Telephone Company has its exchange in the village of Fremont in the town of Fremont, Waupaca county, and has lines within said town and also within the town of Wolf River in Outagamie county. It has a line extending from Fremont eastwardly toward Readfield as far as the boundary line between the town of Caledonia and the town of Fremont. The two lines meet at the boundary line between said towns. Formerly these lines were connected. It seems that they were then owned by the Wisconsin Telephone Company and used, while connected, as a toll line. The Readfield Telephone Company and the Fremont Telephone Company each purchased a part of the line and severed it. A number of subscribers residing between Readfield and Fremont desire to communicate with each other as well as with the subscribers of the respective exchanges in Fremont and Readfield. However, not all of the subscribers of either of the respondents require such service regularly, but nearly all seem to require it occasionally. Under the circumstances it seems desirable, when connection is made, to establish a toll rate of 10 cts. for each message, or a charge of 25 cts. per month for unlimited service. Such proposed charges are satisfactory to all parties concerned.

NOW, THEREFORE, IT IS ORDERED, That the Readfield Telephone Company and the Fremont Telephone Company make such physical connection of their lines between Fremont and Readfield as to enable service to be rendered over these lines between the said villages.

IT IS FURTHER ORDERED, That each of said companies exact a toll of 10 cts. for each message from those desiring limited service and a monthly charge of 25 cts. from those desiring unlimited service. Each company shall retain the revenues originating on its own lines.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF A HIGHWAY CROSSING ON THE LINES OF THE CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY COMPANY AND THE CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY AT THE DRUMMOND ROAD IN THE CITY OF EAU CLAIRE.

Submitted Oct. 3, 1913. Decided March 6, 1914.

The Commission, on its own motion, investigated the necessity of protecting a highway crossing at the intersections of the Drummond road in the city of Eau Claire with the lines of the C. St. P. M. & O. Ry. Co. and the C. M. & St. P. Ry. Co.

The fact that a question as to whether the Drummond road is a public highway is pending before the courts will not deter the Commission from requiring the installation of such safeguards as are necessary for the immediate protection of the traveling public. If the road is finally declared by the courts to be a public highway, however, it may become necessary to make certain alterations in the crossing for the full and permanent protection of the traveling public.

Held: 1. The crossing of the Drummond road with the line of the C. M. & St. P. Ry. Co. is reasonably safe under the existing traffic conditions.

2. The crossing of the Drummond road with the line of the C. St. P. M. & O. Ry. Co. is dangerous.

It is ordered that the C. St. P. M. & O. Ry. Co. maintain a flagman at the crossing on its line between the hours of 6:15 a. m. and 6:15 p. m. daily.

The Commission being satisfied, upon investigation, that grounds exist sufficient to warrant a hearing with reference to the necessity of protection for the traveling public at the intersections of the Drummond road in the city of Eau Claire with the lines of the Chicago, St. Paul, Minneapolis & Omaha Railway Company and the Chicago, Milwaukee & St. Paul Railway Company, a hearing was ordered and held on October 3, 1913, at Eau Claire. At this hearing *A. H. Shoemaker* appeared for the city of Eau Claire, *J. B. Sheean* for the Chicago, St. Paul, Minneapolis & Omaha Railway Company, and *J. N. Davis* for the Chicago, Milwaukee & St. Paul Railway Company.

It appears from the testimony that at the crossing of the Drummond road with the line of the Chicago, Milwaukee & St. Paul Railway Company, a comparatively unobstructed view of

trains is afforded, and that conditions there are reasonably safe under the existing traffic conditions.

The crossing of the Chicago, St. Paul, Minneapolis & Omaha Railway Company's tracks with the Drummond road is located about one hundred feet west of the intersection of the two railway lines. The three tracks of the railway run northwest and southeast and the highway northeast and southwest. The highway parallels the Chicago, Milwaukee & St. Paul Railway Company's track southwest of the crossing. From the northeast highway approach the view of trains to the southeast is comparatively unobstructed, but to the northwest trains are obscured by high ground. From the southwest highway approach the view in both directions is badly obstructed by buildings so that a traveler must be very close to the tracks before he can see approaching trains. The traveled roadway is very narrow on this approach. An interlocking tower stands only fifteen feet from the track of the Chicago, Milwaukee & St. Paul Railway Company and the traveled roadway passes between them. Thus it is also necessary for a traveler to observe approaching trains on the line of the Chicago, Milwaukee & St. Paul Railway Company, which is difficult because of the parallel position of the tracks. Witnesses testified that horses have been frightened by fast trains passing close to them unexpectedly. It was also pointed out that travelers are often confused by being unable to distinguish approaching trains, and thereby become more liable to accident.

The testimony shows that the Drummond road has been used, in substantially its present location, since the construction of the Chicago, Milwaukee & St. Paul Railway Company's line after the flood in 1884. It is now traveled by farmers hauling or driving stock to the Drummond Packing Company's plant, by employes of that company and other manufacturing companies, and by a considerable number of other persons both afoot and in vehicles. The Drummond Packing Company employs from fifty to eighty persons, most of whom use this crossing frequently. A count was made for the Chicago, Milwaukee and St. Paul Railway Company on its crossing and the results introduced as follows:

	7 a. m. to 7 a. m. Sept. 23 and 24, 1913	Sept. 24 and 25, 1913
Pedestrians	25	12
Teams	34	26
Automobiles	6	10
Bicycles and motor cycles	20	6

The statement was made at the hearing that the traffic over the Chicago, St. Paul, Minneapolis & Omaha Railway Company's crossing is not materially different from that at the Chicago, Milwaukee & St. Paul Railway Company's crossing. However, the investigations of the Commission's engineer indicate that much travel which goes over the tracks at the Chicago, St. Paul, Minneapolis & Omaha Railway Company's crossing does not use the other crossing. A count was made on February 18 and 19, 1914, at the former crossing between the hours of 6 a. m. and 12 midnight with the following results:

	Feb. 18	Feb. 19
Pedestrians, adults	127	173
" children	3	4
Teams	46	102
Automobiles	10	16

Practically all of the highway traffic crossed between 6 a. m. and 7:30 p. m., and comparatively few crossings were noted after 6 p. m.

The superintendent of the Chicago, Milwaukee & St. Paul Railway Company testified that there are twelve regular train movements over that company's track, eight of which are trains operated by the Minneapolis, St. Paul & Sault Ste. Marie Railway Company. The count made by the Chicago, Milwaukee & St. Paul Railway Company shows forty-eight movements over its crossing during a period of forty-eight hours. Our engineer's count shows twelve regular trains and twelve switching movements on the Chicago, Milwaukee & St. Paul Railway Company's track during the period of observation on February 18, 1914, and twelve regular trains and eight switching movements on the following day. During the same periods the traffic on the Chicago, St. Paul, Minneapolis & Omaha Railway Company's line was as follows:

	Feb. 18	Feb. 19
Regular trains, passenger	16	16
" freight	7	6
Extra freight trains	5	10
Switching movements	31	32

On February 18 seven passenger trains, three freight trains, two extra freight trains and nine switching movements occurred after 6 p. m. On the following day seven passenger trains, one regular freight and two extra freight trains and ten switching movements were noted after 6 p. m. Because of the presence of the interlocking plant at the railway crossing the necessity of stopping trains is obviated, and they operate at relatively high speed. Several narrow escapes from accident at the crossing were reported at the hearing.

It was stated that the question whether the Drummond road has been shifted from its original location, and whether it is a public highway, is now before the courts. The Commission's decision has no reference to the merits of that controversy. It is sufficient for the purposes of this proceeding that the road is now, and has been for many years, used by the traveling public. So long as this use continues the Commission will not hesitate to require the installation of such safeguards as are necessary for the immediate protection of the public.

From a careful examination of the testimony and of the reports of three members of our engineering staff we find that the crossing of the Drummond road and the line of the Chicago, St. Paul, Minneapolis & Omaha Railway Company is dangerous to public travel, and that further protection is necessary. Pending the conclusion of the litigation with reference to the legal status of the road, temporary protection can be best afforded by stationing a flagman at the crossing. If the road is finally declared to be a public highway by the courts, however, it may become necessary to make certain alterations in the crossing for the full and permanent protection of the traveling public.

IT IS THEREFORE ORDERED, That the Chicago, St. Paul, Minneapolis & Omaha Railway Company maintain a flagman at the Drummond road crossing on its line in the city of Eau Claire between the hours of 6:15 a. m. and 6:15 p. m. daily.

VILLAGE OF SPENCER

vs.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY.

Decided March 6, 1914.

The respondent alleges that the removal of a warehouse near Clark st. in the village of Spencer and the making of other improvements render unnecessary the crossing protection required in the order issued in this matter on Sept. 9, 1913 (12 W. R. C. R. 525).

Held: The protection required by the former order is necessary. The order will therefore stand.

An order in this matter was issued on September 9, 1913 (12 W. R. C. R. 525), requiring the Minneapolis, St. Paul & Sault Ste. Marie Railway Company to maintain a flagman from 7 a. m. to 7 p. m. daily at Clark street in the village of Spencer, install an annunciator in the gateman's cabin, and install and maintain at Main street an electric gong to be controlled by the flagman at Clark street.

Under date of November 14, 1913, the respondent asked for a rehearing in the matter alleging that the removal of a warehouse near Clark street and other improvements at Spencer make unnecessary the protection prescribed in the order. This request was granted and the rehearing was held on December 16, 1913, at Spencer, *Jones Ayer* appearing for the village and *Kenneth Taylor* for the respondent.

Under date of December 22, 1913, the respondent asked permission to argue the matter before the entire Commission, and such oral argument was heard on January 13, 1914, by two members of the Commission. *Kenneth Taylor* presented the case for the respondent, but the village was not represented.

Subsequent to the hearing two members of the Commission's engineering staff made two separate investigations of the conditions at the crossings in question. A traffic count was taken on Friday, January 30, 1914, from 7:30 a. m. to 1:10 p. m. and

from 1:40 p. m. to 6:10 p. m. Movements on the railway were observed until 8 p. m. The results of the count are as follows:

Highway Traffic.

	Pedestrians.		Teams.	Automobiles.
	Adults.	Children.		
Clark street	143	179	61	3
Main street	49	41	8	1
La Salle street	1	11	17	1

Railway Traffic.

	Through Trains.		Switching Movements.	
	Passenger.	Freight.	Passenger.	Freight.
Clark street	6	18	17	53
Main street	6	18	0	30
La Salle street	6	18	0	20

Our engineers report that such protection as is given to travelers by members of the train crews while switching is in progress is very slight and is frequently entirely lacking. Both engineers who examined the crossings state that in their opinion a modification of the previous order is not justified by the existing conditions.

In the light of the reports of our engineering staff and upon a careful consideration of the additional evidence introduced at the second hearing we are of the opinion that a modification of our former order is not justified, and that the protection therein prescribed is necessary for the reasonable protection of the public. The order will therefore stand as of this date.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF THE VINE STREET CROSSING ON THE LINE OF THE MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY IN THE CITY OF MARSHFIELD.

Submitted Jan. 9, 1914. Decided March 6, 1914.

The Commission, on its own motion, investigated the necessity of requiring further protection at the Vine street crossing on the M. St. P. & S. S. M. Ry. in the city of Marshfield.

Held: The crossing is dangerous. The respondent is ordered to station a flagman at the crossing who shall be on duty from 6:00 a. m. to 6:00 p. m. daily.

The mayor of Marshfield, having complained informally to the Commission that a fatal accident had recently occurred at the Vine street crossing in that city and that the crossing is dangerous to public travel, and the Commission being satisfied from its own investigation that grounds existed sufficient to warrant a hearing as to the necessity of further protection at this crossing, a hearing was duly ordered and held at Marshfield, on January 9, 1914. *Albert G. Felker,* mayor, and *R. R. Williams,* city attorney, appeared for the city of Marshfield, and *W. A. Hayes* represented the Minneapolis, St. Paul & Sault Ste. Marie Railway Company.

The testimony shows that Vine street crosses four tracks on the respondent's main line and three tracks on the Nekoosa branch. The main line runs approximately east and west and is straight and level. The crossing is approximately at right angles. From the north highway approach the view to the west is obstructed by stockyards located about four hundred feet west of the crossing. A witness testified that from a point in the highway one hundred feet north of the track a train can be seen four hundred feet west if there are no cars standing on the sidetrack. He said that cars are frequently allowed to stand in a position where they obstruct the view. The east view from the north approach is relatively unobstructed, except for a warehouse located about one hundred fifty feet north of the tracks. From the south highway approach the view to the west

is limited by a coal bunker between the main line and the Nekoosa line and by the freight depot which is between five hundred and six hundred feet west of the crossing. Freight cars standing on the house track sometimes add to the obstruction in this direction. From the same approach the east view is obstructed by an oil warehouse on the railway right of way near the main line, by freight cars standing on the track, by trees, and by a barn. A map was introduced in evidence by the company, showing the limits of vision as observed by its engineer. This map shows the obstructing buildings substantially as described by witnesses for the city. The city attorney objected to the lines of vision indicated, alleging that they do not show the usual condition with regard to standing freight cars, engines on the turntable and other temporary obstructions. However, the limits of vision, as shown on this map, are of such a character as to make clear the necessity of further protection when considered in connection with the traffic conditions.

The mayor pointed out that the danger at this crossing is incurred by the proximity of the main line and the Nekoosa line. The Nekoosa line is about one and one-half feet lower than the main line and about one hundred feet distant from it. He said that it is a frequent occurrence for a team to be caught between the tracks while trains are passing on both lines, even though the driver is reasonably careful. He expressed the opinion that the removal of the oil warehouse and the installation of an electric bell would provide sufficient protection at the crossing.

Vine street is heavily traveled, especially by pedestrians going back and forth to their work morning, noon and evening. A witness estimated that there are about three hundred working people who cross at Vine street during the day. He said that a school is located about three blocks from the crossing and that from twenty-five to thirty children are obliged to cross in going to and from school. Another witness estimated the pedestrian traffic at two hundred, including from fifty to one hundred school children. On stock days traffic from the south uses this crossing. Farmers hauling their products to a cheese factory, a stave factory and a pickle factory cross at Vine street. Some travelers were said to take a longer and more indirect route in order to avoid this crossing which they regard as dangerous. A count was made at the crossing by the Commission's engineer for two days with the following results:

Period.	Pedestrians.		Teams.
	Children.	Adults.	
Feb. 26, 1914, 7 a. m. to 8 p. m.	52	134	53
" 27, 1914, 6 " " " " "	36	122	36

In his report our engineer points out that the weather during the count was very unfavorable for highway travel and expresses the opinion that the results indicate what may be regarded as about the minimum traffic.

The respondent's superintendent testified that ten regular passenger trains, ten regular freight trains and an average of less than four extra trains a day are operated over the main line, all of which stop at Marshfield. About one-half of the movements occur after dark. During the rush season there are from twenty-six to twenty-eight movements a day on the main line. On the Nekoosa line six regular trains are operated, all of which run relatively slowly because the crossing is within the yard limits. Witnesses for the city stated that considerable switching is done over Vine street, especially on the Nekoosa line.

The count taken by our engineer shows the movements over the railway lines as follows:

Period.	Through Trains.		Switching Movements.	
	Main line.	Nekoosa branch.	Main line.	Nekoosa branch.
Feb. 26, 1914, 7 a. m. to 8 p. m.	19	5	43	81
" 27, " 6 " " " " "	20	7	41	84

The mayor testified that four fatal accidents have occurred at this crossing within his memory, and other witnesses described three such accidents. Several narrow escapes were also reported.

In the light of the testimony and of the report of our engineer we find that the Vine street crossing is unusually dangerous and that further protection is necessary. While conditions could be improved by the removal of the oil warehouse, as suggested by the mayor, yet the proximity of the two lines and the fre-

quency of switching movements create a condition which could not be satisfactorily remedied by the installation of an electric bell. Travelers should be informed before crossing either track that no train is approaching on the other line. We therefore regard the services of a flagman as necessary for the proper protection of the public.

IT IS THEREFORE ORDERED, That the Minneapolis, St. Paul & Sault Ste. Marie Railway Company station a flagman at the crossing on its line at Vine street in the city of Marshfield, who shall be on duty from 6 a. m. to 6 p. m. daily.

WECKS LUMBER COMPANY
vs.
CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted Sept. 18, 1913. Decided March 7, 1914.

The petitioner asks that the respondent be required to construct, operate and maintain a spur track from the respondent's main line to the petitioner's lumberyard in the city of Racine, alleging that such a spur track is practically indispensable to the successful operation of the lumberyard, and that the construction and operation of the spur track would not be unusually unsafe and dangerous nor unreasonably harmful to the public interest. The respondent objects to the granting of the petition on the ground that the location of the spur track as prayed for by the petitioner would necessitate cutting the respondent's main track in high speed territory and operating trains against the current of traffic, thereby increasing the danger of accident. The respondent is willing, however, to install a spur track connected with its third track on the west side of its main line and opposite the petitioner's lumber yard and to establish a private crossing for the petitioner's use. The petitioner desires to have this spur track constructed if no other solution is feasible.

It is ordered: (1) that the respondent construct and maintain a spur track west of its industrial track as specified, for the use of the petitioner; and (2) that the petitioner deposit with the respondent a sum specified to pay for the construction of the spur track, or, in lieu thereof, give bond in accordance with sec. 1797—11*m*—2 of the statutes. Thirty days is considered a sufficient time within which to comply with the order.

If the respondent and the petitioner can reach some agreement relative to the extension of the east industrial track and an apportionment of the cost of the extension, or if a longer track, at an additional cost, west of the tracks is desired, the Commission will modify the present order accordingly.

The petitioner operates a lumberyard at the corner of Yout street and Douglas avenue in the city of Racine on the east side of the Chicago & North Western Railway Company's right of way. It alleges that a spur track connected with the respondent's main line and the petitioner's lumberyard is practically indispensable to the successful operation of the industry; that such a spur track will not necessarily exceed one-half mile in length; that its construction and operation will not be unusually unsafe and dangerous nor unreasonably harmful to the

public interest; and that the petitioner desires immediate connection and is ready and able to pay a proper and reasonable cost of constructing such a track. The Commission is therefore asked to require the respondent to construct, operate and maintain a spur track as described in the petition.

The respondent, in its answer, alleges that it refused the petitioner's application on the ground that the location of the spur track as prayed for would necessitate cutting the main track in high speed territory and operating trains against the current of traffic for a distance of about one mile. It states its willingness to install a switch track reaching the premises of the petitioner and furnishing it adequate service. The dismissal of the complaint is therefore asked.

A hearing was held at Racine on September 18, 1913, at which *E. R. Burgess* appeared for the petitioner and *William G. Wheeler* for the respondent.

The only question at issue is whether the construction and operation of a spur track from the main line of the railway to the petitioner's lumberyard would be unsafe and dangerous. The respondent's general manager testified that forty through passenger trains are operated over this line between Chicago and Milwaukee, passing the point in question at high speed. In order to relieve the main tracks of local freight business a third track has been built west of the main line for serving industries in this vicinity. The general manager said that in the interest of safe operation the company has persistently refused to cut the main line for spur tracks in high speed territory, and that wherever it is possible to do so existing spur tracks of this sort are being removed. The position of the railway company in this regard is approved by the Commission's engineer in his report as follows:

> "It is believed that the railway company's objection to the granting of the spur track connecting with the southbound track of their main line on the ground that the same would introduce an extra and unnecessary hazard in operation is well taken. The railway company should be assisted in discouraging this practice wherever possible."

The respondent expressed its willingness to install a spur track connected with its third track on the west side of its main line and opposite the petitioner's lumberyard and a suitable

private crossing for the petitioner's use. The cost of such a track 280 feet in length is estimated by the railway company's engineer at $962 and by the Commission's engineer at $909. The petitioner objected to this proposal because it would necessitate the constant crossing of the main line by its teams in hauling to and from the proposed spur track. It was also pointed out that such an arrangement would make impossible the use of a roller system for unloading lumber, which is more economical than the use of teams. However, in its brief, the petitioner expresses its desire for a spur track west of the third track if no other solution is regarded as feasible by the Commission, in which event it desires a longer track than that upon which the above estimates were based. The brief does not show the exact length of track desired.

A second alternate solution was suggested by the railway company, namely the extension of an existing industrial track east of the main tracks, which now terminates 3,390 feet south of the petitioner's lumberyard. The company offered to permit the use of as much of its right of way as is available for such an extension on condition that the petitioner bear the entire cost of construction and purchase any additional land necessary. The cost of this extension, not including land, is estimated by the railway company's engineer at $10,278 and by the Commission's engineer at $8,880. This proposal is entirely satisfactory to the petitioner with reference to service, but, as stated in its brief, the petitioner is not in a position to assume an expense for such service exceeding $3,000.

An order will therefore be entered requiring the railway company to construct a suitable sidetrack west of its industrial track as indicated in the map filed with the Commission by the company, dated September 20, 1913, and marked "Proposition A". If the railway company and the petitioner can reach some agreement relative to the extension of the east industrial track and an apportionment of the cost thereof, or if a longer track, at an additional cost, west of the tracks is desired, the Commission will modify this order accordingly.

IT IS THEREFORE ORDERED, That the respondent, the Chicago & North Western Railway Company, construct and maintain a spur track north of Yout street and west of its industrial track at Racine in accordance with plans shown on a map submitted

to the Commission by the respondent and now on file, designated "Proposition A", for the use of the Wecks Lumber Company.

IT IS FURTHER ORDERED, That the Wecks Lumber Company deposit with the Chicago & North Western Railway Company the sum of $909 to pay for the construction of said spur track, or, in lieu thereof, give bond in accordance with the provisions of sec. 1797—11*m*–2 of the statutes of Wisconsin.

Thirty days is considered a sufficient time within which to comply with this order.

CITY OF MONROE
vs.
ILLINOIS CENTRAL RAILROAD COMPANY.

Submitted July 31, 1913. Decided March 7, 1914.

The petitioner alleges that several highway crossings on the respondent's line in the city of Monroe, Green county, are not properly planked and surfaced and that the crossings at Payne street and Madison street are dangerous to public travel. The planking and surfacing of the streets at the crossings other than those at Madison street and Payne street have been improved to the satisfaction of the city authorities since the hearing and only the matter of adequate protection at the Madison street and Payne street crossings remains for determination.

Held: The crossings in question are dangerous. The respondent is ordered: (1) to install and maintain at the Madison street crossing an electric bell with illuminated sign, plans to be submitted for approval; or, at its option, to stop each of its southbound trains at this crossing and send a flagman ahead who shall remain at the crossing and warn travelers until the train has passed; and (2) to install and maintain at the Payne street crossing an electric bell with illuminated sign, plans to be submitted for approval; and to improve the highway approaches as specified.

The city of Monroe in Green county alleges in its petition that several highway crossings in that city on the line of the Illinois Central Railroad Company are not properly planked and surfaced and that the crossings at Payne street and Madison street are dangerous to public travel. The Commission is therefore asked to require the respondent to provide adequate protection at these crossings and for such other action as it may deem proper in the premises.

The respondent, in its answer, enters a general denial of the petitioner's allegations and asks that the complaint be dismissed.

A hearing was held at Monroe on July 31, 1913. *O. S. Rundle* appeared for the petitioners and *Jones & Schubring,* by *E. J. B. Schubring,* for the respondent.

The planking and surfacing of the streets at the crossings other than those at Madison street and Payne street have been improved since the hearing to the satisfaction of the city author-

ities. This decision will therefore refer only to the question of adequate protection at the Payne street and Madison street crossings.

Madison Street Crossing.

Madison street descends from the north on a sharp grade and crosses the respondent's line at an acute angle about four hundred feet northeast of the passenger station. The track lies in a deep cut northeast of the crossing. South of the tracks Madison street continues south, but a more traveled street runs to the southwest, paralleling the track to the passenger station. From the latter approach travelers are enabled to see for a considerable distance trains approaching through the cut from the northeast. From the north highway approach, however, the view of trains to the northeast is obstructed by the banks of the cut, until a traveler is very close to the track. The respondent's engineer testified that from a point in the highway fifty-one feet north of the track a man standing on the track six hundred feet northeast of the crossing is visible, and that from a point sixty feet north a man can be seen three hundred feet northeast on the track. Our engineer reports the limits of vision to the northeast as follows:

Point of observation in highway from track	View northeast
North 50 feet	700 feet
" 100 "	200 "
" 150 "	150 "
" 200 "	75 "
" 250 "	0 "

The view to the southwest is partially obstructed by a bill board and the station building.

Madison street is an important outlet from the city of Monroe into the country. Travel was said to be heavy, but no specific estimates of its volume were made. All of the eight regular trains which are operated over this division stop at the passenger depot. Northbound trains cross Madison street very slowly on this account. Southbound passenger trains were said to cross at a speed of about eight miles an hour, and freight trains at about six miles an hour. The respondent offered to reduce the speed of all trains or stop them at the crossing in preference to installing other forms of protection.

Payne Street Crossing.

Payne street runs east and west and the respondent's line northeast and southwest, the angle of crossing being about 37 degrees. From the west highway approach the view to the northeast is obstructed by buildings and trees. A witness stated that a traveler must be very close to the tracks to obtain a clear view of trains. The west approach is very steep, being on an 8 per cent grade. From the east highway approach the southwest view is obstructed by the banks of a cut and by houses. The limits of vision are reported by our engineer as follows:

Point of observation in highway from track	View northeast	View southwest
West 50 feet	3,000 feet	2,000 feet
" 100 "	250 "	2,000 "
" 200 "	200 "	1,000 "
East 50 "	500 "	2,000 "
" 100 "	400 "	100 "
" 200 "	350 "	0 "

Payne street is an important highway which carries the principal traffic from the territory west of Monroe into the city. No specific traffic data were introduced. Eight regular trains are operated at this point.

Counsel for the respondent called attention to an undercrossing at Cornelius street about one block distant from Payne street, and took the position that the company should not be required to protect Payne street when it has provided an undercrossing only a short distance from it. It appears from the testimony, however, that the so-called undercrossing consists of a framed trestle over a piece of low land, and that the aperture available for the use of traffic is entirely inadequate for any considerable amount of travel. Moreover, the approaches to the undercrossing are unimproved. Witnesses for the city expressed doubt as to whether the subway could be remodeled in such a manner as to give a proper vertical clearance for traffic. They also were of the opinion that even if the undercrossing should be rendered fit for use, it would still be impracticable to close Payne street to the public.

Our engineer's report shows that the total length of the trestle at Cornelius street is 69 feet, the center span under which traffic passes being 19 feet, 6 inches in length. Since the bridge is on a skew the actual horizontal clearance at right angles is

less than 12 feet. The existing vertical clearance is approximately 9 feet. The report continues as follows:

"No survey has been made of the situation; but from a rough examination of the situation on the ground, it is believed that the roadway could be graded down to afford a satisfactory vertical clearance and still provide for drainage. If this were done a grade of perhaps 7 per cent would be necessary for some 230 feet on Cornelius street which might be reduced by carrying the grading on Garden street. In this event a new center span and abutments would be necessary to provide proper horizontal clearance. A very rough estimate of the cost of such improvement, together with the cost of giving a well graded earth road from Hoard street and Galena road to Garden and Russell streets via Cornelius and Garden streets, gives a figure of $3,000."

In the opinion of our engineer the improvement of the undercrossing, as outlined above, and the closing of the Payne street crossing would result in the best permanent solution. In lieu of such action, he recommends that the aproaches to the Payne street crossing be improved so as to afford a clear roadway width of 24 feet at the crown and a grade on the west approach not to exceed six per cent, and that an electric bell and light be installed.

From a careful examination of the testimony and of the report of our engineer, we find that the crossings at Madison street and Payne street are more than ordinarily dangerous. In view of the fact that Madison street is near the passenger depot at which all trains stop, the company will be allowed the option of stopping all southbound trains at the crossing and sending a flagman ahead, or installing bell protection. It is our judgment that the installation of an electric bell would be the most economical procedure. In December 1912 (11 W. R. C. R. 151) the Commission allowed the respondent to stop all of its trains at the Division street crossing in Dodgeville in lieu of installing a bell as formerly ordered (1912, 9 W. R. C. R. 367). Under date of February 12, 1914, T. J. Foley, general manager of the Illinois Central Railroad Company, informed the Commission that the cost of stopping its train up to that date in compliance with that order is estimated at $238.80. This sum is almost sufficient to cover the initial cost of installing an electric bell.

We are not convinced that the improvement of the Cornelius street subway, involving as it does a relatively large expendi-

ture, is warranted at this time. With the increase of traffic and the improvement of the neighborhood, it will probably become necessary to remodel and use the undercrossing at Cornelius street, but under the existing conditions we feel that the travel on Payne street can be reasonably well protected by the installation of an electric bell and the grading recommended by our engineer.

IT IS THEREFORE ORDERED, That the respondent, the Illinois Central Railroad Company, install and maintain at the highway crossing on its line at Madison street in the city of Monroe, an automatic electric bell with an illuminated sign for night indication, plans for track circuits to be submitted to the Commission for approval; or, at its option, stop each of its southbound trains at this crossing and send a flagman ahead who shall remain at the crossing and warn travelers until the train has passed.

IT IS FURTHER ORDERED, That the said respondent railroad company install and maintain an automatic electric bell with an illuminated sign for night indication at the highway crossing on its line at Payne street in the city of Monroe, plans to be submitted to the Commission for approval; and improve the highway approaches so that they shall have a clear roadway width of twenty-four feet at the crown, and a grade not to exceed 6 per cent.

Ninety days is considered a sufficient time within which to comply with this order.

COMMERCIAL CLUB OF MENOMONIE

vs.

CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY COMPANY.

Submitted Oct. 21, 1913. Decided March 7, 1914.

The petitioner alleges (1) that the station facilities furnished by the respondent at Menomonie Jct., Dunn county, are inadequate; (2) that the practice of requiring passengers to board or alight from a westbound train on the north side instead of on the station side is dangerous and inconvenient; and (3) that the baggage room at the Menomonie city depot is inadequate, and asks that the respondent be required to provide adequate station facilities at Menomonie and Menomonie Jct. and to allow passengers to board and alight from westbound trains on the station side at Menomonie Jct. Menomonie Jct. is almost exclusively a transfer point. Baggage is usually transferred there on trucks and is sometimes damaged by rain and snow. At the Menomonie city station traffic conditions are such at certain seasons of the year, when students are returning to or leaving the Stout Manual Training Institute, that baggage is exposed to damage from the weather by being allowed to stand on trucks for considerable periods of time.

Held: 1. The station facilities at Menomonie Jct. are inadequate.

2. The change proposed by the petitioner in the present practice of loading and unloading westbound trains at Menomonie Jct. is not practicable from the standpoint of public safety. A suitable shelter should, however, be provided for the use of passengers obliged to wait on the north platform.

The respondent is ordered to enlarge its passenger station at Menomonie Jct. so as to provide adequate accommodation for passengers and baggage and to erect a suitable umbrella shed as specified. Plans are to be submitted for approval. Sixty days is given within which to comply with the order.

No order is issued with reference to the protection of baggage at the city station, it being understood that the respondent will provide tarpaulins and keep all baggage properly covered during the days of abnormal traffic when the baggage room may be insufficient.

The petition alleges in substance that the station facilities furnished by the Chicago, St. Paul, Minneapolis & Omaha Railway Company at Menomonie Junction in Dunn county are inadequate; that the practice of requiring passengers to board or alight from a westbound train on the north side instead of on the station side is dangerous and inconvenient; and that the baggage room at the Menomonie city depot is inadequate.

The Commission is therefore asked to require the respondent to provide adequate station facilities at Menomonie and Menomonie Junction, and to allow passengers to board and alight from westbound trains on the station side at Menomonie Junction.

No formal answer was filed by the respondent.

A hearing was held on October 21, 1913, at Menomonie, Wis. *J. R. Mathews* appeared for the petitioner and *R. L. Kennedy* for the respondent.

Menomonie Junction.

Menomonie Junction is the terminus of a branch line connecting the city of Menomonie with the respondent's main line. The testimony shows that the depot contains a waiting room for women which is 13 feet 8 inches wide and 19 feet 6 inches long, and a waiting room for men which is 14 feet wide and 19 feet 6 inches long. These waiting rooms have a seating capacity of thirty-four. They are heated by a stove connected by an open passage. At the end of the building is a baggage room 11 feet wide and 19 feet 6 inches long. Witnesses stated that the windows cannot be readily opened, and that the waiting rooms are often poorly ventilated and in an unsanitary condition. The rooms were said to be frequently crowded beyond their seating capacity. One witness estimated that an average of about two hundred passengers a day use this depot, and stated that on many occasions as many as one hundred passengers wait for a train. The only toilet facilities provided are outside earth closets.

The respondent's superintendent took the position that the situation at Menomonie Junction is peculiar, in that it is almost exclusively a transfer station at which trains usually make close connections. He suggested that the need for a larger station with toilet facilities could be obviated by allowing the branch line trains to wait at the station until the main line trains with which they connect arrive. Witnesses for the peitioner testified that this arrangement would improve conditions. However, it was pointed out that close connections are not always made.

A study of the traffic conditions at Menomonie Junction was made by the Commission's engineer on December 10 and 11, 1913, and January 30 and 31 and February 1 and 2, 1914. The greatest congestion at the station occurred in the evening at the arriv-

al of trains number 7, number 8 and number 1 on the main line. The number of persons using the station at such times for three days are shown in the following table:

Date.	Train No. 7.		Train No. 8.		Train No. 1.	
	Number using station.		Number using station.		Number using station.	
	Before arrival.	After departure.	Before arrival.	After departure.	Before arrival.	After departure.
Jan. 30, 1914.....	.....	.....	68	.....	.....	81
" 31, "	.....	.....	55	.....	60	80
Feb. 1, "	50	65	72	74	74	81

The engineer points out in his report that, assuming proper ventilation, the existing depot will seat thirty-four persons and accommodate thirty-six with standing room, making its total capacity seventy. It will be noted from the above table that the total seating and standing capacity was exceeded by the demand for accommodations on four different occasions during the period of observation. The observations were made a week after the opening of the Stout Manual Training Institute when the rush of returning students was passed, and when the travel from the school would naturally be normal.

It appears from the testimony that baggage is usually transferred at Menomonie Junction on trucks, without having been stored in the baggage room. Since no shelter on the platform is provided, baggage loaded on trucks is sometimes exposed to rain or snow and damaged thereby. It was suggested that baggage might be suitably protected at such times by the use of tarpaulins. Our engineer recommends that a portion of the station platform be provided with a covering to shelter truckloads of baggage between transfers.

Under the existing operating rules at Menomonie Junction, passengers are obliged to board or alight from westbound main line trains on the north side of the tracks, the station being located south of the tracks. Those desiring to board a westbound train are obliged to cross the tracks when the train becomes visible about a mile distant and wait on the exposed platform until it arrives. This was said to necessitate a wait of from two to four minutes. It was pointed out by witnesses that the prac-

tice of crossing in front of a train is a dangerous one, and a number of narrow escapes resulting from this practice were described. Passengers leaving a westbound train are compelled to wait on the open platform until the train leaves, or walk around the rear car. A witness for the petitioner asserted that it is a common practice to unload passengers on the depot side at other stations on the respondent's double track lines, and expressed the opinion that it could be safely done at Menomonie Junction. The company's superintendent stated that such a rule is followed at some of its stations, but that in each case there are peculiar circumstances which do not exist at Menomonie Junction. He said that a rule is now in effect which requires trains to stop while another train is loading or unloading passengers, and not attempt to pass it, but admitted that this rule may no be rigidly adhered to, through the neglect of trainmen or possibly through physical inability to stop a train in time. The failure to stop under such circumstances would be likely to result in a serious accident. In the opinion of the superintendent the present method of loading is the safest which could be adopted. Observations made by our engineer show that passengers are now obliged to wait on the unsheltered platform for periods ranging from thirty seconds to seven minutes in duration. Our chief engineer expresses the opinion that it would be a dangerous practice to allow passengers to enter and leave westbound trains on the south side unless a suitable island platform between the tracks is provided. He suggests the retention of the existing practice and the erection of an umbrella shed north of the tracks for the use of westbound passengers.

Baggage Protection at Menomonie City.

The testimony shows that the baggage room at the city depot is sufficient under normal conditions of travel, but that at certain seasons of the year when students are returning to or leaving the Stout Manual Training Institute, there is not sufficient space. It was stated that at such times baggage is allowed to stand on trucks for considerable periods, exposed to the weather, and that some damage has resulted from this cause. The respondent's superintendent suggested that this matter could be taken care of by the use of tarpaulins at such times, and this plan was approved by witnesses for the petitioners.

From a careful examination of the testimony and of the re-

ports of our engineering staff we find that the station facilities at Menomonie Junction are inadequate. Proper ventilation should be provided, and the men's waiting room should be enlarged by using some of the space now occupied by the baggage room. A shelter should be erected over a part of the platform to protect baggage while it is standing on trucks awaiting transfer. While there are some advantages to be derived from allowing the branch line trains to stand at the station, as suggested, so that passengers may use the conveniences which they offer, there are serious objections to the plan. At a transfer point of the importance of Menomonie Junction better toilet facilities than those now furnished are certainly necessary, and the company will be expected to find some method of materially improving conditions in this regard.

With reference to the practice of unloading and loading westbound trains north of the tracks, we are convinced that the change suggested by the petitioner is not justified from the standpoint of public safety, when viewed in the light of the traffic conditions. Nor should the present method result in serious inconvenience, since practically all persons using westbound trains change cars at this point and are therefore not delayed in reaching their destinations by being obliged to wait a few minutes on the westbound platform. However, it is unreasonable to require passengers to wait from two to seven minutes on the north platform without shelter, and a suitable umbrella shed should be provided for their use. The erection of such a structure will probably necessitate moving the north passing track a short distance.

No order will be issued with reference to the protection of baggage at the city station, it being understood that the company will provide tarpaulins and keep all baggage properly covered during the days of abnormal traffic when the baggage room may be insufficient.

IT IS THEREFORE ORDERED, That the respondent, the Chicago, St. Paul, Minneapolis & Omaha Railway Company, enlarge its passenger station at Menomonie Junction so as to provide adequate accommodation for passengers and baggage, and erect a suitable umbrella shed at least two hundred feet in length on the westbound platform. Plans are to be submitted to the Commission for approval.

Sixty days is considered a sufficient time within which to comply with this order.

TOWN OF ALMENA

vs.

CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY COMPANY.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF BARRON'S CROSSING ABOUT TWO AND ONE-HALF MILES SOUTHWEST OF COMSTOCK ON THE LINE OF THE CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY COMPANY.

Decided March 7, 1914.

The Commission, on its own motion, investigated the advisability of relocating the highway at Barron's crossing on the C. St P. M. & O. Ry. in the town of Almena. The town board and the railway company had agreed upon such a relocation after a hearing in a previous proceeding instituted by the town, but, owing to a disagreement between the town and the owner of the land necessary for the new highway, the relocation had not been effected. Since the previous proceeding was initiated authority has been given the Commission by ch. 603, laws of 1913, to order the closing of a grade crossing and the substitution of another therefor at grade, if found necessary in the interest of public safety.

Held: The relocation of the highway is necessary for public safety. It is ordered: (1) that the railway company construct, as specified, a new crossing and a new highway connecting this crossing with the existing highway; (2) that the railway company furnish all necessary labor and material, acquire all necessary land and perform all necessary work in making the alteration ordered, and that the town of Almena, upon the completion of the work, pay to the railway company the actual cost of the land acquired for relocating the highway, all other costs to be borne by the railway company; and (3) that upon the opening of the new crossing for public travel the portion of the highway lying within the railway right of way lines at the existing crossing be closed and continuous fences erected by the railway company to prevent its use by the public. The alterations ordered are to be completed and the new crossing is to be opened by July 1, 1914.

Under date of September 10, 1912, the town of Almena filed with the Commission a complaint alleging that a highway crossing on the respondent's line, known as Barron's crossing, is unsafe and dangerous to public travel, and asking that the respondent be required to properly safeguard the crossing.

The respondent, in its answer, admits that the crossing is more

or less unsafe and dangerous to public travel and suggests that it may be made less dangerous by relocating the highway so that it shall run outside of the right of way and east thereof, a distance of about eight hundred feet to mile post number 47 and there cross the right of way.

A hearing was held on November 29, 1912, at Turtle Lake, *W. A. Gierhart* appearing for the petitioner and *C. D. Stockwell* for the respondent.

Subsequent to the hearing a conference was held between the town board, the railway company and an engineer of the Commission, at which it was agreed that the crossing should be relocated about 330 feet southwest of its present site, the town to acquire the required land and the company to perform all of the necessary work. Under date of January 5, 1914, the Commission was informed by Henry H. Carsley that the proposed relocation had not been effected. The legislature of 1913 having in the meantime empowered the Commission to order the closing of a grade crossing and the substitution of another therefor at grade, if found necessary in the interest of public safety (ch. 603, laws of 1913), a hearing on motion of the Commission was duly ordered and held at Comstock and, as adjourned, at Turtle Lake on January 26, 1914, *W. A. Gierhart* appearing for the town of Almena and *R. L. Kennedy* for the Chicago, St. Paul, Minneapolis & Omaha Railway Company. At this hearing the testimony taken in the earlier case was placed in evidence.

The testimony shows that the relocation of the highway, agreed upon at the conference referred to above, has not been effected, owing to a disagreement between the town and the owner of the land necessary for the new highway.

The company has admitted that the crossing is dangerous and it is therefore unnecessary to review at length the testimony with reference to its dangerous characteristics. The chief source of danger is the badly obstructed view of trains from the east highway approach. A rural mail carrier who crosses every day testified that from this approach it is impossible to obtain a view of trains until a traveler's horse is within about four feet of the rail. The view to the north is limited by an earth bank ten feet in height and by brush and trees. To the south a similar bank obstructs the vision. From the west highway approach the view is comparatively unobstructed. The track curves a short

distance north of the crossing and about one-fourth of a mile south, and this condition was said to increase the danger from trains. The road is an important highway connecting Comstock and Cumberland. Witnesses estimated that it is traveled by from ten to forty teams a day. Several narrow escapes from accident were described.

The site selected for the new crossing is now the private crossing of the owner of the required land who resides near it. He testified that the proposed road would encroach to some extent upon his garden tract, and for that reason objected to the change, but we believe the benefits to be derived from a public crossing, which would relieve him of the necessity of operating and closing gates in going to and from his property on the opposite side of the railway line is of some benefit to him.

It is evident from the testimony and from the reports of our engineering staff that the crossing in question is unusually dangerous. It is also apparent, in view of the amount of travel and the physical surroundings, that the relocation of the highway, as agreed upon at the conference referred to above, is necessary for public safety.

IT IS THEREFORE ORDERED, That the Chicago, St. Paul, Minneapolis & Omaha Railway Company construct a highway crossing about 330 feet southwest of the existing Barron's crossing and construct a new highway east of the railway connecting the existing highway and the new crossing.

IT IS FURTHER ORDERED, That the said railway company furnish all necessary labor and material, acquire all necessary land and perform all necessary work in making the alteration ordered herein, and that the town of Almena, upon the completion of the work, pay to the said railway company the actual cost of the land acquired for relocating the highway, all other costs to be borne by the railway company.

IT IS FURTHER ORDERED, That upon the completion of the new crossing and the opening of the same for public travel, the portion of the highway lying within the railway right of way lines at the existing Barron's crossing be closed, and the said railway company is hereby directed to enclose the same with continuous fences so that it cannot be used by the public.

July 1, 1914, is considered a reasonable date at which the alterations ordered herein shall be completed and the new crossing opened for public travel.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF AN ALLEGED VIOLATION OF CHAPTER 610 OF THE LAWS OF 1913, BY THE LISBON TELEPHONE COMPANY.

Submitted Jan. 13, 1914. Decided March 10, 1914.

The Commission, on its own motion, investigated an informal complaint made by the Pewaukee-Sussex Tel. Co. that the Lisbon Tel. Co. had violated ch. 610, laws of 1913. It appears that the Lisbon Tel. Co. in the fall of 1913 extended its line along the Lisbon Plank Road in the town of Lisbon without filing notice, as required by the law cited, with the Commission and with the Pewaukee-Sussex Tel. Co., which was already operating a line for local service along the road named. This violation of law seems, however, not to have been willful and the matter of the extension is therefore considered as if the case were before the Commission in the manner contemplated by the statute. The extension is desired by certain residents along the Lisbon Plank Road who allege that the Lisbon Tel. Co. is in a position to afford them more direct connection and better service to the village of Sussex than is the Pewaukee-Sussex Tel. Co.

The fact that slightly quicker service may be obtained if a duplication of lines is permitted is not necessarily sufficient to justify such duplication.

Held: The extension in question, so far as it reaches the Lisbon Plank Road and residences along the road, is not required by public convenience and necessity and is in existence in violation of law. Though the Commission apparently has no authority to order the Lisbon Tel. Co. to cease giving service to subscribers along the road named, the failure of the company to discontinue such service will render the company liable to prosecution.

If the service furnished by the Pewaukee-Sussex Tel. Co. is inadequate recourse should be had to the remedies provided by law before resorting to the duplication of existing equipment.

This case arises from an informal complaint made to the Commission by the Pewaukee-Sussex Telephone Company to the effect that the Lisbon Telephone Company in the fall of 1913 extended its line to the town of Lisbon, Waukesha county, in a manner contrary to chapter 610 of the laws of 1913. The illegality of the extension as alleged consisted in the failure to file notice with the Commission and with the Pewaukee-Sussex Telephone Company as required by the law and the consequent inability of the Pewaukee-Sussex Telephone Company to appear before

the Commission and offer its objection to the extension. Upon receipt of this informal complaint, the Commission undertook an investigation on its own motion into the matter and held a hearing on the matter at Pewaukee, January 13, 1914. At the hearing the Pewaukee-Sussex Telephone Company was represented by *Alex Caldwell,* and the Lisbon Telephone Company by *Henry Lockney.*

The fact of the violation of ch. 610 of the laws of 1913 by the Lisbon Telephone Company is undisputed. The extension in question was constructed in the town of Lisbon in the fall of 1913 and a telephone instrument was installed in the residence of Paul Mamerow in November of that year. The Pewaukee-Sussex Telephone Company is operating lines for local service in the town of Lisbon, so that its right under the law to object to the extension is clear. It appears that the Lisbon Telephone Company in making the extension was under a misapprehension as to the meaning of the law on the subject.

Since the fact that the Lisbon Telephone Company having made the extension without authority of law is clearly established, the extension of the new line and the rendering of service to subscribers upon it is technically illegal. It seems to us, however, that the best course to pursue in this case, in the absence of any indication of willful violation of the law, is to consider the case upon its merits as though the matter were properly before the Commission in the manner contemplated by the statute.

The territory involved in this case is, roughly speaking, that which lies between the villages of Pewaukee and Sussex. These two villages are five or six miles apart and are connected by a telephone line of the Pewaukee-Sussex Telephone Company. About one and one-half miles south of Sussex and something like four miles north of Pewaukee this line crosses an important east and west highway known as the Lisbon Plank Road. In addition to the north and south line from Pewaukee to Sussex, the Pewaukee-Sussex Telephone Company has a line running easterly along this Lisbon Plank Road for a distance of several miles and serving a number of farmers along the highway. The Lisbon Telephone Company has its headquarters at Sussex and has lines radiating mostly to the north and east of that point. One of its lines extending east from Sussex parallel to the Lisbon Plank Road and about a mile and a half north of it is the line in

question, which was extended in the fall of 1913 down to the Lisbon Plank Road. Mr. Mamerow, to whom this line gives service, resides along the plank road and the line of the Pewaukee-Sussex Telephone Company runs past his residence, but he has never been a user of that company's service. Across the plank road from Mr. Mamerow's residence is that of George F. Stiehl, who has had Pewaukee-Sussex service, but would have changed to the Lisbon Company's new line had not the present investigation interfered. The Lisbon Telephone Company introduced the testimony of other persons living along the Lisbon Plank Road who indicated a desire to have Lisbon Telephone company service if possible, but were not at the time of the hearing users of any service at all.

The main reason stated by the various witnesses for the Lisbon Telephone Company for their desire to have that company's service instead of the Pewaukee-Sussex service was that the Lisbon Telephone Company's line ran directly to the village of Sussex, where their business interests lie. The Lisbon Plank Road is nearer to Sussex than to Pewaukee, and the necessity of a ringing into the Pewaukee switchboard and being switched onto a line from Pewaukee to Sussex was claimed to give rise to considerable inconvenience. If the Lisbon Telephone Company's service could be procured by the residents on the plank road they could ring directly into the Sussex exchange on that company's line. There was also some testimony as to poor service on the Pewaukee-Sussex line to residents along the plank road. One witness, in fact, had removed his Pewaukee-Sussex instrument a year or so ago because, as he testified, it was out of order so much of the time as to be practically useless to him.

It seems that the main difficulty with the telephone situation along the Lisbon Plank Road is that the residents along the road, in order to reach Sussex, have to call the Pewaukee exchange and then be switched onto the line connecting Pewaukee and Sussex. This line is not a clear line, but has four subscribers attached. It is therefore evident that subscribers who are themselves located on loaded farm lines must be first connected with a line carrying four subscribers, and must then obtain further connection at the Sussex end of the line with the persons they desire to reach in Sussex. Under these circumstances, they are quite likely to find one of the three lines busy. If the plank road residents were on the Lisbon Telephone Company's line this chance would be somewhat reduced, owing to the fact that

they would call the Sussex exchange direct and would not have to go over the Pewaukee-to-Sussex line, which now has subscribers of its own.

This is a difficulty which can easily be remedied. The Pewaukee-Sussex Telephone Company is required by law to give reasonably adquate service and the Commission has now under consideration a series of rules laying down standards of adequacy of telephone service. These rules, it is expected, will contain provisions regarding the loading of lines and the kind of connection that is to be made between villages and cities. When these rules are promulgated it will be an easy matter to determine to what extent, if at all, the service of the Pewaukee-Sussex Telephone Company falls short of the standard and to take steps toward a correction of the difficulty. Or, if the service is sufficiently unsatisfactory to make a formal complaint to this Commission worth while, the entire matter of the company's service may be gone into upon a separate investigation. In any case, it would seem that whatever defects there may be in the service should be taken care of in the regular course provided by law unless they are so glaring or so impossible of correction that the usual measures for forcing adequate service will not prove effective. The building of a duplicate line in such a way as to cover territory already fully covered by an existing company is not easily justified, and certainly the amount of deficiency in service which has been disclosed by the testimony in this case is not sufficient to warrant a drastic remedy of duplication in advance of any attempt to correct the service in the more usual way.

It is not to be denied that those persons living along the Lisbon Plank Road and desiring telephone connection with Sussex would find it somewhat more convenient to be able to ring Sussex exchange directly from their instruments instead of ringing Pewaukee and then being switched to the Sussex exchange. This is really only a matter of slight inconvenience, however, when compared with the great public convenience which is subserved by the prevention of unnecessary duplication of telephone lines. If duplication were to be permitted on account of slightly quicker service to be obtained by ringing Sussex directly, there would be few cases of proposed duplication of lines that would not be permitted to proceed. The question of rates does not enter into this case, since the Pewauke-Sussex Telphone Company's service from Pewaukee to Sussex is furnished without any toll charge,

and it therefore costs no more to reach Sussex over that company's line than it would if the Lisbon Telephone Company were permitted to extend to the plank road.

It appears to us that this is a case in which, if the Lisbon Telephone Company had filed its notice with the Commission in the manner required by law, the Commission would have found that public convenience and necessity do not require the proposed extension. The company would not, therefore, have been legally entitled to proceed with the extension. The company should not, of course, be entitled to any greater privilege because it went ahead in violation of law than it would have had had it proceeded in conformity with the law. Chapter 610 of the laws of 1913 prescribes a specific procedure to be followed in the case of telephone extensions, and makes no provision for a case like the present, where the extension is made in violation of the statute. It does not appear, therefore, that we have authority to make an order requiring the Lisbon Telephone Company to remove its line, to discontinue giving service to Mr. Mamerow, and to refrain from installing service in the residence of Mr. Stiehl. The same result will probably be reached, however, by our statement that public convenience and necessity do not require the extension and that it exists in violation of law. Therefore, unless the Lisbon Telephone Company discontinues service to Mr. Mamerow and refrains from serving Mr. Stiehl, the way will be open for a prosecution.

Some mention was made at the hearing of a proposition on the part of the Lisbon Telephone Company to buy from the Pewaukee-Sussex Telephone Company its line along the Lisbon Plank Road. We do not know whether negotiations toward this end have proceeded since the time of the hearing or not, but we have assumed that the relation between the companies at this date are the same as existed at the time of the hearing.

The Lisbon Telephone Company's extension to the plank road appears to be about one mile in length. What we have said regarding the merits of the matter applies only to that portion of the extension which reaches the Lisbon Plank Road and residences along that road. As far as the evidence goes, we see no reason why the northerly part of the extension should not be permitted to remain in existence if the company can obtain subscribers enough to make it worth while. It is very clear to us, however, that neither Mr. Mamerow nor Mr. Stiehl should be given service by the Lisbon Telephone Company.

RUSK BOX AND FURNITURE COMPANY

vs.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY.

Decided March 11, 1914.

The petitioner alleges that the charges exacted from it by the respondent on the basis of the regular lumber distance tariff for the movement of ten carloads of lumber within the village of Hawkins are excessive to the extent that they exceed charges based on the switching rate put into effect for such services after the shipments in question moved, and asks for refund. The respondent is willing to make the reparation claimed.

Held: The distance tariff rate was an exorbitant charge. Refund is ordered on the basis of the switching charge now in effect, which would have been the reasonable charge for the services rendered.

The petitioner is a corporation engaged in the manufacture of boxes and other articles at Hawkins, Wis. It alleges that on and between April 2 and May 27, 1913, inclusive, it shipped ten carloads of lumber from the Ellingson Lumber Company's yards at Hawkins to its factory situated within the limits of the village of Hawkins, upon which the respondent exacted charges at the regular lumber distance tariff rate of 3 cts. per cwt., which amounted on said shipments to $90; that the charges thus exacted were excessive, as the service rendered was a switching service; that the reasonable rate for such service was $5 per car; that the respondent, subsequent to said shipment, made effective a rate of $5 per car applicable to shipments of lumber between points within the village of Hawkins; and that as a result of not having in effect any such switching charges of $5 per car, the complainant was obliged to pay an excessive charge of $4 per car on the aforesaid shipments. The petitioner therefore prays that the respondent be required to refund to it the sum of $40.

The respondent railway company admits the allegations of the complaint and expresses its willingness to make reparation in the sum asked if authorized to do so.

The matter was submitted upon the pleadings, documents and schedules on file.

It appears that the petitioner shipped ten carloads of lumber as alleged and paid for the transportation service the sum of $90. This was based on a weight of 30,000 lb. per car at 3 cts. per cwt., which was the lawful rate in effect at the time the shipments moved. Effective May 31, 1913, in respondent's tariff supplement No. 5 to G. F. D. No. 15585, a rate of $5 per car was published to apply on box lumber switched at Hawkins from the Ellingson Lumber Company's track to the Rusk Box & Furniture Company's plant. This change in rate is covered by the Commission's approval No. A–1665, issued May 16, 1913. From the respondent's application for the approval of the said change, as well as from correspondence concerned in the instant case, it appears that the $5 rate provided in the supplemental tariff was intended to apply to the shipments involved, as well as to the future shipments of the same kind, but was published too late to be lawfully applicable to the shipments in question As a result, the petitioner was obliged to pay $4 per car, or $40, for the transportation services rendered in excess of what it would have been obliged to pay had the $5 per car rate been in effect at the time the shipments moved. It is apparent that the distance tariff rate was an exorbitant charge and therefore refund will be awarded on the basis of the present tariff.

We therefore find and determine that the charge of 3 cts. per cwt., exacted of the petitioner on the aforesaid shipments of lumber from the Ellingson Lumber Company's yards to the petitioners plant in the village of Hawkins, is unusual and exorbitant, and that the reasonable charge for the transportation services rendered is $5 per car.

NOW, THEREFORE, IT IS ORDERED, That the respondent, the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, be and the same is hereby authorized and directed to refund to the petitioner, the Rusk Box & Furniture Company, the said sum of $40.

BROWNDEER LUMBER AND FUEL COMPANY
vs.
GREEN BAY AND WESTERN RAILROAD COMPANY.

Decided March 11, 1914.

The petitioner complains of the rate of 9 cts. per cwt., exacted by the respondent for the transportation of five carloads of slab wood from New London to La Crosse, and asks for refund on the basis of a rate of 4½ cts. per cwt. applying on fuel wood over other lines for a like distance and put into effect by the respondent since the shipments in question moved. The respondent is willing to make refund.

Held: The rate complained of was unusual and excessive. Refund is ordered on the basis of the rate now in effect which would have been the reasonable charge for the services rendered.

This is a complaint against the rate and charges on five carloads of slab wood, shipped from New London to La Crosse during the period December 13, 1913, to December 23, 1913, on which charges were assessed on 211,500 lb. at the rate of 9 cts. per 100 lb., amounting to $190.35. Refund of $95.17 is asked, based on a rate of 4½ cts. per 100 lb. applying on fuel wood over other lines for a like distance, 200 miles, and also established by the respondent on slab wood February 25, 1914, in its tariff G. F. D. No. 6054.

The respondent admits that the rate and charges complained of are excessive and is willing to make refund, if so authorized by the Commission, on the basis of rates published in the tariff named.

From the Commission's files of tariffs, and from correspondence connected with the complaint under investigation, it appears that the charges complained of are excessive and that charges based on rates named in the tariff referred to above would be reasonable. No freight bills or other evidence of shipments as alleged in the petition were filed in the case. The petition, however, gives a list of shipments as follows:

Dec.	13,	1913,	G. B. & W.,	Car No.	473,	Weight	43,800 lb.
"	13,	"	C. M. & ST. P.,	"	500462,	"	36,000 "
"	16,	"	G. B. & W.,	"	471,	"	41,600 "
"	16,	"	"	"	445,	"	41,900 "
"	23,	"	"	"	449,	"	48,200 "

The distance from New London to La Crosse via the respondent's line is 200 miles. The repondent's tariff G. F. D. No. 6054, referred to above, names rates of 4½ and 7 cts. per 100 lb. applying on slab wood for a distance of 200 miles, for alternate use, according to whichever rate results in lower charges, subject to a different set of minimum weights, based on length of car used, for each rate. The four G. B. & W. cars listed above are 35 feet 8 inches and the C. M. & St. P. car 41 feet 5 inches in length. Shipments in cars 35 feet 8 inches in length are subject to minimum weight of 30,000 lb. at the 7 ct. rate or 50,000 lb. at the 4½ ct. rate, and shipments in cars 41 feet 5 inches in length to minimum weight of 36,000 lb. at the 7 ct. rate or 60,000 lb. at the 4½ ct. rate. Charges on the shipments listed, based on these rates, would amount to $117, at a minimum weight of 50,000 lb. per car on the G. B. & W. cars and 60,000 lb. per car on the C. M. & St. P. car and a rate of 4½ cts. per 100 lb. making excessive charges $73.35, instead of the $95.17 stated in the petition, which was arrived at by ignoring the minimum weights applying in connection with the rate named. If upon presentation to the railway companies the freight bills show the payments as alleged in the complaint, the railway company should refund to the respondent the sum of $73.35, as herein found to be an excessive charge.

Under the circumstances stated, we find and determine that the rate of 9 cts. per 100 lb., exacted of the petitioner by the respondent railway company on the aforesaid shipments of slab wood from New London to La Crosse, is unusual and excessive, and that the reasonable rate for such services is that provided in respondent's tariff G. F. D. No. 6054 above mentioned.

NOW, THEREFORE, IT IS ORDERED, That the Green Bay & Western Railroad Company be and the same is hereby authorized and directed to refund to the Browndeer Lumber and Fuel Company the aforesaid sum of $73.35.

IN RE APPLICATION OF THE GRIEB AND GREENE COMPANY FOR A DEALER'S LICENSE, PURSUANT TO CHAPTER 756 OF THE LAWS OF 1913.

Decided March 13, 1914.

The Grieb & Greene Co. of Milwaukee apply for a license to deal in securities as provided in ch. 756, laws of 1913. F. W. Snook & Co. of Milwaukee enter protest against the granting of the application, alleging in effect that the applicant is not qualified to receive such a license. Although not required by law in a case of this kind, a hearing was held for the purpose of obtaining sworn testimony.

Held: The testimony does not disclose any transactions between the applicant and its customers, or any other dealings of the applicant, which would justify the Commission in refusing to grant it a dealer's license in accordance with the provisions of ch. 756, laws of 1913. A license will therefore be issued.

On January 2, 1914, the Grieb & Greene Company, a corporation located in the city of Milwaukee, filed with the Commission an application for a license to deal in securities as provided in ch. 756 of the laws of 1913.

Under date of January 8, 1914, a protest against the granting of this application was made to the Commission by F. W. Snook & Co., a copartnership located in the city of Milwaukee, alleging as the basis for such protest the following:

1. General misrepresentations made by members of the firm and their employes to purchasers of securities.

2. Misrepresentation to clients who have placed securities with the firm for sale as to the price obtained for said securities.

3. Failure to state facts, or what might be called silent misrepresentation by agents of the firm as to whom they represent, for the purpose of inducing a sale or sales of securities, leaving the impression on the part of the purchaser that he is dealing with another firm.

4. The making by a member of the firm of false statements with reference to a member of a competitive firm with the design to injure the competitive firm in its business.

This proceeding is instituted under ch. 756, laws of 1913, which at subsec. 4 of sec. 1753-50, provides as follows:

"No such license shall be issued to any dealer or proposed dealer whose business is so conducted as to deceive or mislead investors or the public, nor unless its business is conducted in all respects in good faith and in compliance with law; and whenever the contrary shall appear to said commission the license therefore issued shall be revoked."

The Commission is not required to hold a public hearing for the purpose of investigating the qualifications of an applicant for a dealer's license, but in view of the nature of the protest and the allegations made therein, it was deemed advisable in this particular case to hold such a hearing in order to obtain sworn testimony upon which to determine the merits of the application. A hearing was therefore ordered and held at Milwaukee on February 9, 1914, and, as adjourned, on February 17, 1914. *J. W. Wegner* appeared for the applicant and *L. B. Lamfrom* for the objector.

The testimony shows that F. W. Snook was formerly employed by the Grieb & Greene Company. After he severed his connection with the applicant and established a copartnership of his own, a sharp rivalry developed between the two companies. The protest in this case appears to be largely the outgrowth of the ill feeling resulting from this rivalry. The Commission has given little consideration to the personal relations between the applicant and the objector, nor has it given weight to the numerous statements made from hearsay by witnesses. Only such portions of the testimony will be reviewed, therefore, as relate to the dealings of the applicant with its customers and the public. An examination of the testimony shows only two specific transactions to which it is necessary to direct attention in this decision.

The first relates to the sale of forty shares of stock of the Standard Separator Company in the spring of 1912. Cornelia S. Kneeland testified that Mr. Grieb of the applicant company agreed to sell this stock for her on a commission basis, and that she consented to its sale at $65 per share. The forty shares were held for her by J. W. Dorsey, who delivered only thirty shares to the applicant, refusing to deliver the other ten shares which he held as collateral with Miss Kneeland's consent. He ultimately purchased them from Miss Kneeland himself for $65 per share. No deduction was made for commission on the sale of the thirty shares, and no bill for commission was presented by the applicant. Miss Kneeland testified that she did not tender

payment for the commission on the thirty shares delivered, supposing that the entire commission would be deducted from the price of the remaining ten shares which were to be delivered later. Mr. Grieb testified that he bought the forty shares outright from Miss Kneeland and that he made no arrangement with her to sell the stock on a commission basis. Mr. Dorsey testified that on the day that Miss Kneeland came to an agreement with the applicant, Mr. Grieb telephoned him that he had purchased the stock in question. Within a half hour Miss Kneeland telephoned Mr. Dorsey as follows:

"Mr. Dorsey, I have sold my stock to Mr. Grieb of Grieb & Greene Company for $65 a share; will you please deliver the stock to him and collect for same."

Miss Kneeland stated that she subsequently learned that Mr. Grieb sold the stock for $85 per share, and that she thereupon brought suit to recover the difference between the amount paid her and the price at which the stock was sold, which suit is now pending. F. W. Snook, who was at that time an agent for the applicant, testified that Mr. Grieb told him that "we" sold Miss Kneeland's stock to Grant Fitch for $85 per share. Mr. Grieb, however, testified that he sold the thirty shares in question to Dr. Jillson for $72 per share. Dr. Jillson testified to this transaction, and exhibited the canceled check for $2,160 given in payment. He stated that he sold the stock for $85 per share to Grant Fitch or Mr. Lombard and retained the profits. He asserted that he did not act as the agent of the Grieb & Greene Company in this sale. No evidence was introduced to show that applicant has been accustomed to buy and sell stock for customers upon a commission basis.

The second specific transaction concerns the sale of ten shares of American Timber Holding preferred stock to Dr. W. H. Folsom of Markesan in November, 1913. Dr. Folsom, in an affidavit submitted in evidence without objection, states that he arranged to purchase the stock from F. W. Snook & Co. and sent a check for $975 in payment to the Wisconsin National Bank, having been informed that the stock would be delivered there on receipt of the money. The following day his check was returned and F. W. Snook telephoned him that the transfer of the stock could not be made at that time, and that he was investigating the title to the cumulative dividends on it. Dr. Folsom states further that on the following day Wm. R. Batin called at his

office, representing himself to be the owner of the stock, and offering to sell it to him direct. Dr. Folsom then notified F. W. Snook of this proposal, and was requested by him to withhold payment until advised further. Upon advice from J. D. Thomsen of F. W. Snook & Co., that the difficulty in transfer had been adjusted, the stock was delivered.

F. W. Snook testified that in answer to an advertisement by his company that it would buy American Timber Holding preferred stock, one Geo. Stuempeley, who was engaged in the roofing business and who has an office near that of the applicant, offered to sell ten shares of this stock, which offer was accepted by F. W. Snook & Co., but was later refused because Stuempeley would not sign a statement that its title was unincumbered and that it carried accumulated dividends. Subsequently the same stock was sold to Dr. Folsom by Wm. R. Battin, a field agent of the applicant company. Mr. Grieb testified that he had no knowledge as to what representations Mr. Battin made to Dr. Folsom. No evidence was introduced to show that Mr. Stuempeley acted as the agent of the applicant in this transaction, nor was it shown where the applicant obtained the stock which Mr. Battin sold to Dr. Folsom. The transfer of the stock was stopped by the secretary of the company upon request of F. W. Snook & Co. The matter was adjusted by the payment of $40 to F. W. Snook & Co. by the applicant, after which the stock was delivered to Dr. Folsom.

The president of the Grieb & Greene Company testified that the corporation was established in 1906, and that it does a general brokerage business in unlisted securities. In its advertising the company specifies the number and kind of securities offered for sale and the price at which it will sell them, and states that it will buy at spot cash certain specified securities, no price being named. He stated that the volume of business transacted by by the company in a month approximates $100,000. The representative of a Seattle firm, which has had dealings with the Grieb & Greene Company, testified that the business transacted between the two companies has been entirely satisfactory.

In our judgment, the testimony does not disclose any transactions between the Grieb & Greene Company and its customers, or any other dealings of that company, which would justify the the Commission in refusing to grant it a dealers' license in accordance with the provisions of ch. 756 of the laws of 1913. A dealers' license will therefore be issued to the applicant.

HORICON ADVANCEMENT ASSOCIATION
vs.
CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Submitted Nov. 4, 1913. Decided March 14, 1914.

The petitioner alleges that the respondent's station facilities at Horicon, Dodge county, are unsanitary, inadequate and insufficient and that the present situation is dangerous and asks that the respondent be required to increase its station accommodations for passengers and to build an adequate freight depot. The respondent concedes that better accommodations are needed and states that it is willing to make the necessary improvements in the spring of 1914, but has failed to submit plans as promised.

Held: The freight and passenger facilities complained of are inadequate. The respondent is ordered (1) to erect a modern depot for passengers at a specified location, (2) to provide a freight station south of the present site and the sidetracks with adequate platform and storage room and a convenient highway approach, and (3) to construct and maintain a properly surfaced driveway to its stockyards from the public highway. Plans for the station buildings are to be submitted for approval and the improvements and new buildings ordered are to be completed and opened for the use of the public by July 15, 1914.

The petition alleges that the respondent's depot arrangements and accommodations for freight and passengers at Horicon in Dodge county are wholly unsanitary, inadequate and insufficient, and that the present situation is dangerous. The Commission is therefore asked to require the respondent to increase its station accommodations for passengers and to build a new and commodious freight depot.

The respondent, in its answer, denies that its facilities at Horicon are wholly inadequate or unsanitary, but states that it will add another waiting room during 1914 and add such other improvements as may be necessary to handle the business.

A hearing was held at Horicon on November 4, 1913. *W. H. Markhan* appeared for the petitioner and *J. N. Davis* for the respondent.

The testimony shows that Horicon is an important junction point between the main line of the respondent's Northern divi-

sion and the northern branch of that division. The passenger depot is about twenty-five years old. It contains two stove heated waiting rooms, each having a seating capacity of sixteen. The platform was said to be so narrow that passengers are subjected to danger from the movement of trucks loaded with baggage and express. The only toilet facilities provided are earth closets, although the city now has water works which make feasible the installation of sanitary toilets. The traffic at Horicon is larger than would naturally be expected at a city of its population, because of the fact that it is an important transfer point. A count was made by a witness for the petitioner of the number of passengers waiting at the station for the evening trains. On each occasion the waiting rooms were filled beyond their seating capacity and passengers were standing on the platform. The observations follow:

Date.	Number of persons waiting at one time.	Date.	Number of persons waiting at one time.
Oct. 21, 1913	130	Oct. 29, 1913	136
" 22, "	77	" 30, "	141
" 23, "	144	" 31, "	111
" 25, "	78	Nov. 1, "	135
" 26, "	113	" 3, "	113
" 28, "	144		

The respondent's agent at Horicon testified that the passenger depot would need to be three times as large as it now is in order to provide seats for all persons waiting for trains in the afternoon.

Witnesses testified that the freight depot is too small to properly shelter the less than carload freight handled at Horicon and that the platform room is insufficient. It was also stated that teamsters have to cross the tracks and back down to the freight houses between tracks which are about thirty-two feet apart. Farmers in delivering goods at the platform are accustomed to drive in and unhitch their teams, fearing that a train will pass while they are unloading and frighten their horses. Several minor accidents from this cause were reported. Moreover, it is impossible for more than one or two teams to unload at the same time. Farmers stated that on account of the danger and inconvenience of the Horicon station, they prefer to drive a

greater distance to other stations where better facilities are available. The respondent's agent admitted that the platform space is insufficient and expressed the opinion that the warehouse for freight should be twice as large as at present.

While the question of stockyard facilities was not specifically mentioned in the complaint, it was considered at the hearing with the consent of the respondent. Witnesses asserted that the present stockyards are inconveniently located, that the approach to them is muddy and too narrow to allow a team to turn around, and that no scales are provided. The company has an arrangement with a private party whereby his scales are placed at the service of stock shippers. These scales are located at a considerable distance from the yards and are therefore somewhat inconvenient. It was claimed that on account of the conditions at these yards stock buyers prefer to ship from other stations, although Horicon is the most available for them geographically.

After a careful investigation of the conditions at Horicon our engineer recommends that a new passenger depot be constructed west of the present structure between the two main lines, and that the tracks on the Milwaukee-Oshkosh line be planked from the platform to the street. He recommends further that the freight depot be relocated south of the two sidetracks, enlarged and provided with suitable platforms on the north, east and west sides. He suggests that the south tracks be moved north so that a thirteen foot center between all the tracks is provided; and that a properly surfaced roadway to the stockyards be built.

In the light of the testimony and the report of our engineer we find that the freight and passenger station facilities at Horicon are inadequate. The company concedes that better accomodations are needed, and states that it is willing to make the necessary improvements in the spring of 1914. With the expectation that the company would submit the plans and specifications of the proposed improvements, the decision of the Commission was withheld in order that it might have the opportunity to pass upon such plans before final action was taken. Under date of January 13, 1914, the Commission requested the company to furnish its plans and specifications for the proposed changes at Horicon, and in reply the Commission was advised on February 11, 1914, that such plans would be submitted within a week or ten days. No plans have yet been received, and we do not feel justified in delaying the matter further.

IT IS THEREFORE ORDERED, That the respondent, the Chicago, Milwaukee & St. Paul Railway Company, erect a modern depot for passengers west of its present depot at Horicon between the two main lines, which shall be adequate for the traffic; provide a freight station south of the present site and south of the sidetracks, which shall have adequate platform and a storage room for the freight handled at Horicon and a convenient highway approach; and construct and maintain a properly surfaced driveway to its stockyards from the public highway.

Plans for the station buildings ordered herein are to be submitted to the Commission for approval.

July 15, 1914, is considered a reasonable date at which the improvements and new buildings ordered herein shall be completed and opened for the use of the public.

CITY OF RACINE

vs.

THE MILWAUKEE ELECTRIC RAILWAY AND LIGHT COMPANY.

Submitted July 3, 1913. Decided March 14, 1914.

The petitioner alleges (1) that the respondent's service in the city of Racine is inadequate; (2) that the extension of certain lines is necessary for proper service to the public; and (3) that the increase of street car traffic in Racine is sufficient to justify the sale of six tickets for 25 cts., good at all times when the cars are in operation. Since the hearing the complaint with regard to adequacy of service has been satisfied. The complaint as to tickets is not considered, inasmuch as no testimony was presented with reference to it.

Held: The Commission has no authority to order extensions of street railway lines. *City of Merrill v. Merrill Ry. & Lt. Co.* 1910, 5 W. R. C. R. 418, 425. It is recommended, however, that the city of Racine grant without unreasonable encumbrance, and that the respondent accept, franchises along certain designated streets in Racine..

The petition is dismissed.

The city of Racine in its petition alleges in substance that the cars operated by the respondent in Racine are inconvenient and inadequate; that at certain times of the day the cars are overcrowded; that the extension of certain lines is necessary for proper service to the public; and that the sale of six tickets for 25 cts., good at any time when the cars are running, is justified because of the increase of street car traffic in Racine. The Commission is therefore asked to require the respondent to improve its service, to extend its lines as requested by the city, and to sell six tickets for 25 cts., good at all times when the cars are in operation.

No answer was filed by the respondent.

A hearing was held at Racine on July 3, 1913. *E. R. Burgess* appeared for the petitioner and *Van Dyke, Rosecrantz, Shaw & Van Dyke,* by *Clarke M. Rosecrantz,* for the respondent.

Subsequent to the hearing several new cars were placed in service, satisfying the complaint with reference to the frequency of operation. The company still retains in service a number of

remodeled cars. The city attorney, in a letter subsequent to the hearing, contends that the service will not be satisfactory until these cars are discarded for new ones. The testimony shows that the cars referred to have been used in Racine about ten years, having been operated in Milwaukee previous to that time. During the summer of 1912 they were remodeled at an expense of something over $1,500 per car, and changed to a prepayment type. The old trucks were replaced by others which had been in use for two years in Chicago.

Members of the Commission's engineering staff have investigated the remodeled cars now in use and report that their operation does not result in unreasonable inconvenience to passengers, so long as the cars are maintained in proper repair. They are also of the opinion that the present traffic in Racine can be best handled by comparatively small cars.

The company has added new cars to its equipment as a result of this complaint, and should continue to do so whenever traffic conditions require it.

The petitioner asks the Commission to require the company to extend its lines as desired by the city. Counsel for the respondent questioned the jurisdiction of the Commission to enter such an order. This matter was considered at length in a former decision. *City of Merrill v. Merrill Ry & Lt. Co.* 1910, 5 W. R. C. R. 418, in which the following language is used at page 425:

"It may be that the authority contended for by the petitioner should exist in case of street railways, which in cities of the size of Merrill have a natural monoply. More than one street railway system in such a city is impossible. Therefore the necessities of such community as a whole should be taken into consideration in developing the street railway system. If public convenience and necessity demand the extension of a line or lines of street railway to serve a section of the city whose population is sufficient to warrant the required investment, the company should meet the exigencies. The Public Utilities Law has vested in common councils the power to compel extensions and additions to public utility plants when necessary to serve the public requirements. The common council is the proper body to which such authority should be given, if possible, over all public utilities, including street railways. It has the control of streets and is best situated, in the first instance, to determine what extensions and additions are required and where they should be made. Such authority, however, has not been conferred upon common councils or this Commission in respect to street railways, and

hence we are without jurisdiction of the subject matter of the petition."

No legislation has been enacted subsequent to that decision affecting the question involved, and the position there taken must be sustained in the present case.

However, our chief engineer and his staff have thoroughly investigated the advisability of the extension suggested at the hearing, especially with reference to the present needs of the city. On March 5, 1914, a committee of business men representing the West Side League requested the Commission to consider also the construction of a line from West Sixth street to State street on either La Fayette street or Mound avenue. This suggestion will receive attention, but we are not prepared at the present time to make any recommendation with respect to it.

Our engineers are of the opinion that an extension is necessary from West Sixth street to Fourteenth street at some point between Wisconsin street and Washington avenue, and that Grand avenue offers a more desirable route than Center street, for the reason that it would better serve this territory.

With reference to the proposed extension of the North Main street line on the north side, they report that an extension as far as Gould street on St. Clair street is necessary, but that beyond Gould street there are few houses and the future development is too problematical to warrant a further extension at this time.

They report that there is an evident need for service on Asylum avenue as far south as Twenty-first street. This territory could be reached by building an extension on Asylum avenue from its intersection with Washington avenue. This arrangement is, however, open to the serious objection that if the North Main street cars should be operated over the new line it would necessitate a split service, some cars turning south on Junction Avenue to the railway station at Sixteenth street, and some continuing on Washington avenue and thence on Asylum avenue. It appears that to properly serve the territory tributary to Asylum avenue, a greater frequency of operation will be necessary than that which could be furnished by a split service. Our engineers therefore recommend that a new track be constructed from the railway station along Sixteenth street to its junction with Asylum avenue and thence on Asylum avenue to Twenty-first street, thus making it possible for all cars to pass the depot.

With the reports of our engineering staff as a basis, we recommend in the interest of better street railway service in the city of Racine that the city grant, without unreasonable encumbrance, and that The Milwaukee Electric Railway and Light Company, accept the following franchises:

1. On Grand avenue from Sixth street to Fourteenth street.
2. On St. Clair street from High street to Gould street.
3. On Sixteenth street from Junction avenue to Asylum avenue and on Asylum avenue from Sixteenth street to Twenty-first street.

No testimony was introduced with respect to the complaint that the company sells six tickets for 25 cts. only for certain portions of the day.

IT IS THEREFORE ORDERED, That the petition herein be and the same is hereby dismissed.

IN RE APPLICATION OF THE GILMANTON MILL AND ELECTRIC PLANT FOR AUTHORITY TO INCREASE RATES.

Submitted Feb. 17, 1914. Decided March 16, 1914.

The Gilmanton Mill and El. Plant applies (1) for authority to increase its rates by the adoption of such a schedule as the Commission may deem reasonable and just, and (2) to be relieved from the necessity of supplying meters free of cost to consumers, until such time as the financial condition of the utility will permit it to own and furnish meters. The utility furnishes continuous service, except for a few hours each day when a storage battery used in connection with a hydraulic generator is being charged, and it appears that some of the flat rate consumers permit their lamps to remain turned on at all times. All consumers on a metered basis have furnished their own meters. Accurate records of the operating expense of the plant are not available.

Held: 1. Before the present rates are revised more experience in the operation of the utility should be obtained to show what business may be secured and at what cost.

2. In view of the uncertainty as to whether the revenues resulting from the present rates will be adequate to meet the needs of the plant it is not advisable to require the utility to increase its investment by acquiring meters in use or by furnishing those to be installed in the future.

3. The utility is entitled to have a rule limiting the use of lamps on a flat rate to a reasonable use.

It is ordered: (1) that such part of the case as relates to a higher rate for service be dismissed for the present; (2) that the utility be exempted from the necessity of supplying meters at its own expense; (3) that rules regulating the use of all night lights and flat irons in line with the views expressed in the opinion may be filed with the Commission for approval; (4) that after such rules have been filed and approved the utility may require violators of the rules to install meters at their own expense; and (5) that the utility may require all parties using electric fans or other power devices to install meters at their own expense.

The applicant is a public utility engaged in the business of furnishing electric current in Gilmanton, Wis. The application for authority to increase rates was filed with the Commission on January 23, 1914. As set forth in the application the legal rates of the utility are as follows:

Meter rates:

First 10 kw-hr. per month, 13 cts. per kw-hr.
All above 10 kw-hr. per month, 10 cts. per kw-hr.
Minimum monthly bill, $1.

Flat rates:

50 cts. per month per 25-watt lamp.
Minimum monthly bill, $1.

It is stated that the present revenue is insufficient to meet the operating expenses and pay a reasonable amount of return upon the investment, and application is made for authority to substitute for the present rates such schedule of rates as the Commission may deem reasonable and just.

The applicant also asks to be relieved from the necessity of supplying meters free of cost to consumers, until such time as the financial condition of the utility will permit it to own and furnish meters.

Hearing was held at Madison, February 17, 1914. *H. T. Forrest* appeared for the applicant. There was no appearance in opposition.

The electric plant in Gilmanton is operated in connection with a milling business. From the report of the utility to the Commission and from the testimony offered at the hearing it appears that current is generated entirely by hydraulic power. During a part of the day the generator feeds the distribution system directly but at other times a 64 cell storage battery is used. It appears that all night service is furnished, in fact, that service is continuous except for a few hours each day during which the charging of the battery is done. The plant has been furnishing service since October 1, 1912.

At the hearing it was stated that service is supplied to thirty-four consumers. At the end of the fiscal year 1912-1913 the number of consumers reported by the utility was thirty-one, of whom fourteen appear to have been supplied through meters, and data submitted as of October 1, 1913, showed eighteen consumers on a meter basis.

Of the flat rate users it appears that the majority have small installations, in many cases not more than two 25-watt lamps. The consumption records submitted by the utility are not altogether clear but they seem to indicate that in some instances meter readings were not taken each month. There will, of course, be instances where it is impracticable to read a meter but it is important that readings be taken and bills delivered each month, wherever practicable, in order to avoid discrimination and to afford a means of detecting any defective meter or unusual condition of consumption.

No definite schedule of rates was proposed by the applicant. It appears that one of the conditions which the applicant desires to have remedied arise from the fact that some of the flat rate consumers permit their lamps to remain turned on at all times so that there is a continual demand upon the plant. A number of the flat rate users have installations so small that it has not been considered advisable to put in meters. It is clear that the fact that service is offered, under certain circumstances, at a flat rate, cannot justify consumers in making an unreasonable use of their lamps. The flat rate is offered under certain circumstances where it appears that the installation of a meter might be a burden upon the consumer, in case the cost of the meter is to be borne by the consumer. The utility is entitled to have a rule limiting the use of lamps on a flat rate to a reasonable use and providing a penalty for violation of the rule.

It was suggested on behalf of the applicant that consumers desiring to use all night lights be limited to the use of 10-watt lamps at the rate of 50 cts. per lamp. The purpose is not only to secure adequate payment for all night lamps but also to reduce to a minimum the use of current during the night and to limit that use to convenience lighting. With storage battery operation both of these purposes are important. The proposed rule appears to be reasonable and will be approved.

In case consumers do not abide by the rule of the utility there are two possible courses to be taken. Service may be discontinued or meters may be installed. Which of these courses should be pursued must be dependent upon a variety of conditions. We are inclined to believe that the better course to pursue in this case would be to use the meter basis of selling current.

This brings up the question of the ownership of meters. Up to the present time all consumers on a meter basis have furnished their own meters. The representative of the utility expressed his willingness to discontinue the practice of requiring consumers to furnish meters and to acquire meters now in use as soon as the financial condition of the plant would warrant such action. This would require an investment of several hundred dollars and would have its effect upon the amount required by the utility to provide for interest and depreciation. In view of the fact that there is some question as to whether the revenues resulting from the present rate will be adequate to meet the needs of the plant, we believe it would not be advisable to require the utility to in-

crease its investment by acquiring meters in use or by furnishing those to be installed in the future. The ultimate cost to the consumer will be about the same in either case, unless the ownership of meters makes it necessary for the plant to operate at a loss, but it appears that the interest of all parties concerned will be better served by requiring consumers to continue to supply their meters than by having the utility supply them and charge a necessarily higher rate for current.

We have been unable to secure any accurate cost figures on the operation of the plant. Collections for the first year's operation were stated by the utility's representative to be $608.34. Operating expenses appear to have been kept at a low figure and it is probable that the business has not been very remunerative but we are unable to state the exact condition of the business. The entire population of Gilmanton is about 275 and it is hardly to be expected that an electric business would be profitable from its inception, even with inexpensive methods of generation. It may be that somewhat higher rates should be charged but if so we think more experience in the operation of the utility should be obtained to show what business may be secured and at what cost. A simple system of records should be kept to show the cost of operation and maintenance. The Commission's accounting staff will render all necessary assistance in providing the means for keeping such records. It was suggested that some electric street lighting should be done, but as Gilmanton is an unincorporated village, no public street lighting can be secured without the sanction of the town authorities.

The representative of the utility suggested a rule permitting users of flatirons to have service during the summer months for one forenoon of each week, and to forbid the use of flatirons in the forenoon during the winter. Although this may not be very convenient to the users of flatirons it appears to be almost necessary for the satisfactory operation of the plant. In a town of less than 300 inhabitants it is hardly to be expected that the same service will be available as can be secured in larger places;

In furnishing all night service the utility is doing more than is done in many larger places and a necessary restriction of the use of irons and of all-night lights will be approved.

IT IS THEREFORE ORDERED:

1. That such part of this case as relates to a higher rate for service is dismissed for the present.

2. That the utility is exempted from the necessity of supplying meters at its own expense.

3. That rules regulating the use of all-night lights and of flat irons, in line with what has been said in this case, may be filed with the Commission for approval.

4. That after such rules have been filed and approved the utility may require violators of such rules to install meters at their own expense.

5. That the utility may require all parties using electric fans or other power devices to install meters at their own expense.

IN RE APPLICATION OF THE TROY AND HONEY CREEK TELEPHONE COMPANY FOR AUTHORITY TO INCREASE RATES.

Submitted Sept. 16, 1913. Decided March 16, 1914.

The Troy & Honey Creek Tel. Co. applies for authority to increase its rates. Subscribers of the applicant object on the ground (1) that the applicant's service is inadequate and (2) that the rates at present in effect are sufficient. A valuation was made, the revenues and expenses were analyzed and the applicant's service over its own system and to connecting companies was investigated.

Held: 1. The service rendered by the applicant is inadequate.

2. The applicant's present rates require revision to (a) provide a reasonable return to the applicant and (b) promote the improvement of the service.

It is ordered that the applicant be authorized to put into effect a schedule of rates determined by the Commission at such time as it shall have installed and in operation a set of books approved by the Commission and shall have complied fully with all other provisions of the order. The schedule of rates authorized includes flat rates for village and rural telephones and provides that these rates shall entitle subscribers to unlimited service over one of the four toll lines connecting the applicant's exchanges to the foreign exchanges in Mazomanie, Lodi, Plain and Loganville. Subscribers desiring unlimited service over a second one of the toll lines named and subscribers desiring such service over all four toll lines are to pay additional charges. Such calls over the toll lines as are not covered by the schedule of flat rates are to be charged for as specified. Nonsubscribers are to pay 10 cts. per call for all calls. It is further ordered: that all calls to foreign exchanges shall be routed over the through lines where such lines exist, except when the through lines are out of order; that charges be made as specified for the replacing of certain existing substation equipment with other types of equipment; that telephone rentals shall be payable in advance as specified; that the applicant shall submit to the Commission for approval a statement of changes which it proposes to make during the year following the adoption of this schedule, in rearranging party lines so that there will be no more than a specified number of subscribers for each line; and that the applicant shall keep all of its equipment in reasonable repair, preserving a record, open to public inspection, of all trouble occurring on its equipment.

Application in the above matter was filed with the Commission on July 30, 1913, and a formal hearing was held at the office of the Commission at Madison on September 16, 1913. *H. Groto-*

phorst appeared for the applicant and *William Ryan* for the objecting subscribers.

The application states that the rates in effect at the time of the application were as follows:

Business phones—$15 per annum.

Residence phones—$12 per annum.

The application further states that these rates are wholly inadequate and insufficient since the net revenue produced does not exceed an amount in excess of 5 per cent on the actual investment, leaving out of consideration a proper allowance for depreciation on the physical value of the property.

The rates proposed by the applicant to be substituted for the present rates are as follows:

Business phones—$18 per annum,

Residence phones—$15 per annum.

At the hearing and through subsequent investigations by members of the Commission's staff the following facts were brought out.

Extent of Operation.

The applicant is a telephone company operating two exchanges, one at each of the villages of Prairie du Sac and Sauk City, serving these villages and the surrounding rural territory. The following table shows the different classes of service together with the number of telephones in each class for each exchange.

SUMMARY OF TELEPHONES OF PRAIRIE DU SAC AND SAUK CITY EXCHANGES.

	Number of telephones
Rural telephones:	
Business (straight bridging)	12
Residence (straight bridging)	440
Business and residence silent call	10
Village telephones:	
Business, 1 party	52
Business, 2 party	20
Residence, 1 party	31
Residence, 2 party	55
Residence, 4 party	12
Automophone business, 1 party	3
Automophone residence, 1 party	1
Harmonic ringing business, 2 party	..
Harmonic ringing residence, 2 party	..
Harmonic ringing residence, 4 party	16
Total	**652**

This table includes, besides the residence and business classes, the automophone, the harmonic ringing, and the silent call telephones as separate classes. The rates charged for these classes of service are as follows:

Automophone:	
Residence	$15.00 per annum
Business	18.00 per annum
Silent call:	
Residence	15.00 per annum
Business	18.00 per annum
Harmonic ringing:	
Residence	12.00 per annum
Business	15.00 per annum

HISTORY OF FINANCIAL OPERATIONS.

The Troy & Honey Creek Telephone Company was incorporated in 1899 with a capitalization of $2,500. In 1900 the capital stock was increased to $6,000 and in 1901 to $25,000. The total stock outstanding in 1905 was approximately $22,000. It appears that at about this time the value of the company's stock dropped below par and it became impossible to sell the stock when extensions were needed. This drop in the value of the stock was due largely to the failure of the company to pay dividends and this in turn was due partially perhaps to insufficient earnings but more probably to the fact that the company strove to make necessary extensions or new construction out of the earnings of the company. No record was presented to the stockholders or even kept of the amount of increase of the plant value due to the investment of the earnings in the plant and since very little, if anything, in the way of dividends was forthcoming, the stock naturally dropped in value until in 1905, as is stated above, the officers found that no one would buy the stock of the company and that there was no money with which to build necessary new construction. To meet this situation money to the amount of $8,000 was borrowed for the company's use on the individual notes of the officers of the company. This money was used for new construction work, reconstruction, and maintenance and operation of the plant. During the next few years the applicant paid off $3,000, of this debt out of the earnings of the company and finally sold a portion of its plant for approximately $5,000, which wiped out entirely the $8,000 debt. Thus the company at the present time has a total of approximately $22,000 of outstanding capital liabilities with a much larger amount than this

actually invested in the plant as the valuation of the property will show.

Earnings.

A thorough audit of the applicant's books was made and expenses and earnings for the year ending June 30, 1913, were determined as closely as possible. Since no separate records of construction, reconstruction, and operation and maintenance of the plant are kept by the applicant, it was impossible to accept the figures submitted by it to cover expense items. Likewise the applicant's figures covering revenues were not entirely accurate since they were reports of receipts rather than of earnings.

From an examination of the records available it was possible to obtain the total actual earnings for the year ending June 30, 1913. These were as follows:

Rentals from village phones	$2,326.02
Rentals from rural phones	5,389.45
Total earnings from rentals	$7,715.47

Toll Earnings.

The actual toll earnings could only be approximated. An analysis of the vouchers paid by the applicant shows that for the year in question there was paid to the Wisconsin Telephone Company $1,319.54 as its share of the total tolls collected. The annual report of the secretary of the company to the directors for the same period shows that the total amount of tolls collected was $1,852.66. The difference between these two figures is $533.12, which is the net amount of toll earnings retained by the applicant, and represents fairly closely, it is believed, the actual net toll earnings for the year.

The total earnings of the applicant will be therefore the sum of the toll and rental earnings.

Earnings from rentals	$7,715.47
Toll earnings	533.12
Total earnings	$8,248.59

Expense Accounts.

In order to obtain as accurate information as possible relative to the expenditures of the company for operation and mainte-

nance of its lines a detailed analysis of all vouchers and bills covering material or labor paid during the year ending June 30, 1913, was made and the various items carefully distributed to the accounts to which they belonged. The amounts expended for material and labor for new construction or extensions were separated from the other expenses as far as possible and deducted from the whole. The reconstruction done during the year was also an item affecting the total of the expense account. An estimate was furnished by the company's manager relative to the amount of the reconstruction done during the year and inasmuch as a proper allowance will be made for depreciation of the property the cost of this reconstruction (approximately $624) was deducted from the total expense.

A statement of expense revised as indicated above is as follows:

EXPENSE ACCOUNT.

Central office operating labor	$1,527.75
Central office supplies and expenses	213.77
Wire plant maintenance and operation	400.96
Substation operation	236.78
Substation maintenance	696.96
Commercial expense	55.95
General office salaries	1,000.00
General—miscellaneous expense	39.19
General—law expense	10.00
General—Railroad Commission expense	9.22
General office maintenance	1.50
Undistributed—stationery and printing	1.85
Undistributed—utility equipment expense	447.75
Taxes	205.07
Total expense	$4,846.75

In the apportionment of vouchers most of the items could be directly placed in the account where they belonged or charged to new construction. However, there were a number of vouchers covering materials and labor, definite knowledge of which was so meager that their amounts could not be charged directly to any account or to new construction. The total of these amounted to $827.08 and was apportioned between operating expenses and new construction as an overhead charge upon these two accounts.

Another item to be apportioned between operating expense and new construction was the manager's salary which amounted to $1,135 for the period in question. It was considered fair to apportion only a small part of this amount to new construction. $135 was charged to new construction and $1,000 to general

expense. The central office operating labor for the year in question amounted to $1,327.75. It appears, however, that certain of the switchboard operators of the company have been putting in longer hours of labor than the law permits, hence the applicant has lately been required to put on another operator at Sauk City at an additional cost of $300 per year. It seems but fair that this extra amount should be allowed in the total cost of central office operating labor.

VALUATION.

In connection with the obtaining of data bearing upon the case at hand a physical valuation of the property of the applicant was made by the Commission as of June 30, 1913. The summary of this valuation is as follows:

VALUATION OF PHYSICAL PROPERTY.
TROY & HONEY CREEK TELEPHONE COMPANY.
As of June 30, 1913.

	Village.		Rural.		Toll.		Total.	
	Cost new.	Present value.	Cost new.	Present value	Cost new.	Present value.	Cost new.	Present value.
A. Land—none								
B. Distribution system	$5,049	$2,931	$23,017	$13,278	$1,481	$917	$29,547	$17,126
C. Bldgs. and misc. struct'rs	168	134	42	34	20	16	230	184
D. Exchange equipment	620	471	156	120	72	55	848	646
E. General equipment	140	88	959	607	75	47	1,174	742
F. Paving—none								
Total	$5,977	$3,624	$24,174	$14,039	$1,648	$1,035	$31,799	$18,698
Add 12 per cent (see note below)	717	435	2,901	1,685	198	124	3,805	2,244
Total	$6,694	$4,059	$27,075	$15,724	$1,846	$1,159	$35,604	$20,942
H. Material and supplies	81	81	553	553	43	43	677	677
Total	$6,775	$4,140	$27,628	$16,277	$1,889	$1,202	$36,281	$21,619

NOTE:—Addition of 12 per cent to cover engineering, superintendence, interest during construction, contingencies, etc.

The Commission finds the cost of reproduction of the property to be $36,281. Computations indicate that depreciation on this property should be figured at about 7 per cent. Seven per cent of $36,281.00 amounts to $2,539.67. The valuation places the present value at $21,619. Making proper allowances for going value and such other items as it is proper to consider, it would seem that $25,000 is a fair value of the property upon which the applicant should be allowed a return. Interest at 7 per cent on

this sum amounts to $1,750. The total expense, then, including interest and depreciation, will be:

Expense other than interest and depreciation	$4,846.75
Interest	2,539.67
Depreciation	1,750.00
Total expense	$9,136.42

The total revenues for the year, details of which appear elsewhere, amount to $8,248.59, so that the deficit is approximately $887.83.

SERVICE.

A number of protests signed by some two hundred of the subscribers of the applicant were filed with the Commission. These protests set forth: 1st, that the service is very poor and does not meet the requirements of the patrons and, 2nd, that inasmuch as dividends were paid stockholders for the past two years that the rates at present in effect produce revenue sufficiently large to carry on the business without raising the rates. These protests come largely from the rural subscribers.

PHYSICAL CONDITION OF PLANT.

Inspection shows that the central office equipment used is of standard make, fairly well protected and in good repair; that, although there are parts of the distribution system which are badly in need of rebuilding, on the whole the system is in fair shape and transmission of messages should not be much hampered by the condition of the lines. Substation equipment and substation wiring, however, do not appear to be in a reasonably fair condition. Sixty per cent of the rural telephones are of an obsolete type. Some of them will probably give satisfactory service for a number of years but undoubtedly there are a good many which should be replaced at once. Also the wiring of many of these phones has been done in a very slipshod manner and is probably a common source of trouble. Telephone companies operating in rural territory especially should be alive to the fact that the retaining in service of a poor telephone or of a poor wiring job is not an economical method to pursue. The maintenance charges upon such construction and apparatus, especially when it is located a long way from the central office, will usually far outweigh the investment in and maintenance of the necessary new apparatus properly installed.

Adequacy of Plant.

The central office equipment does not seem to be lacking with respect to adequacy. Also there would seem to be little question as to the adequacy of the wire plant within the village limits. The rural wire plant, however, must be studied carefully. There are thirty-four rural lines, which do not connect with a second central, running out of the applicant's two exchanges. To these lines there are connected a total of 442 rural phones, making an average of thirteen phones per line. Were all the lines loaded equally with this average number the situation would be fairly satisfactory. However, such is not the case as the following table shows:

Telephones on Rural Lines.

Number	of	lines	to which	4	phones	are connected	2
"	"	"		6	"	"	1
"	"	"		8	"	"	1
"	"	"		9	"	"	1
"	"	"		10	"	"	3
"	"	"		11	"	"	3
"	"	"		12	"	"	1
"	"	"		13	"	"	4
"	"	"		14	"	"	5
"	"	"		15	"	"	4
"	"	"		16	"	"	5
"	"	"		17	"	"	3
"	"	"		18	"	"	1

The above table indicates not only that there is a wider variation in the number of phones per line, but also that heavily loaded lines are greatly in the majority. We realize that such a situation is largely the result of local conditions; that wires for most of these heaviest loaded lines have had to be run across a sandy strip of territory from three to four miles wide in which few telephone users are located, in order to furnish the service to those farmers located in the towns of Troy and Honey Creek; and that these heavily loaded lines are in nearly every case the longest lines, and that hence the investment, maintenance and operation per telephone is highest on these lines. On the other hand, from the standpoint of adequacy it can hardly be disputed that service over these grounded lines on which there are from 14 to 18 telephones can be fully adequate only in rare cases, if at all. Such a large number of telephones per line decreases the chances that a subscriber on the line has of finding that the

line is not busy when he calls. The greater the number of subscribers, especially on a long line, the greater will be the difficulty of ringing the central office from the remote subscribers, due to the comparatively high resistance of the long line wire and low combined resistance of the bells. Subscribers' substation equipment and wiring is usually the source of a considerable part of the trouble experienced on all telephone construction and it often happens that when one subscriber's station is out of order the whole line is out, due to the trouble at the one station. Hence the more subscribers placed on a single line the greater is the probability that the whole line will be out of order. It would seem, therefore, that the adequacy of the service on these heavily loaded lines varies not only directly with the reciprocal of the number of subscribers on the line, but that it probably varies as some two or three times that reciprocal. In other words, the addition of one subscriber to a line loaded with fifteen subscribers will decrease the adequacy of service not one-fifteenth but probably more nearly one-eighth or one-fifth.

From the preceding discussion it appears that the following factors must be taken into consideration in arriving at a decision in this case.

1. Due to various imperfections of construction and equipment, service being at present rendered by the applicant does not appear to be entirely adequate.

2. The distribution of rural subscribers per line is not at all even, resulting in a number of overloaded lines with consequent inadequate service.

3. The average length of rural lines is high, resulting in high wire plant investment and high maintenance and operation expense.

SERVICE TO CONNECTING COMPANIES.

There are four lines connecting the applicant's exchanges to foreign exchanges, not taking into account the toll lines over which long distance messages are sent. These four lines connect with the following foreign exchanges: Mazomanie, Plain, Lodi, and Loganville. Toll charges on these lines are as follows: Mazomanie—free, Plain—free, Lodi—10 cts, Loganville—free. There are therefore three free lines maintained by the applicant, the upkeep of which under the present arrangement of rates is borne by every subscriber of the company whether this subscriber uses

the particular line in question or not. This, it would seem, is unfair to those who do not use the lines and as a step in the direction of requiring subscribers using toll service to pay for that service it has been deemed advisable to put into effect the following form of rate schedule: A flat rate will be charged, differing in amount with the class of service, which rate will entitle subscribers to elect unlimited service to the Prairie du Sac and Sauk City exchanges and to one of the four above mentioned additional exchanges. For an additional sum the subscriber may elect two of the above extra exchanges and for a still larger sum he may elect all four foreign exchanges. A toll charge per call is proposed to be placed on all calls not coming under the above classes of service. This form of schedule, although not designed to do away entirely with unlimited services to neighboring exchanges, will have a tendency to decrease the number of unnecessary calls over these lines, thus improving the service and at the same time reducing the necessity of building more through lines between exchanges to take care of increased traffic.

The following is the schedule of rates proposed:

SCHEDULE OF RATES.

Flat Rates.

	Rate per Year
Rural:	
Business, straight ringing	$15.00
Business, silent call	16.00
Residence, straight ringing	13.50
Residence, silent call	14.50
Village:	
Business, 1 party, straight ringing	17.00
Business, 1 party, automophone	18.00
Business, 2 party, straight ringing	14.00
Business, 2 party, harmonic ringing	15.00
Residence, 1 party, straight ringing	15.00
Residence, 1 party, automphone	16.00
Residence, 2 party, straight ringing	13.00
Residence, 2 party, harmonic ringing	14.00
Residence, 4 party, straight ringing	12.00
Residence, 4 party, harmonic ringing	13.00
Extension phones (talking set only)	6.00
Extension bells	3.00
Nonsubscriber, per call	.10

No. 1 class of service: The above flat rates shall entitle subscribers to elect in addition to the service of the Prairie du Sac and Sauk City exchanges, unlimited service over one of the four toll lines connecting the applicant's exchanges with the following foreign exchanges: Mazomanie, Lodi, Plain and Loganville.

No. 2 class of service: Subcribers who elect in addition to No. 1 class of service unlimited service over a second one of the above toll lines shall be charged at the rate of $1.60 per year in addition to the rate for the No. 1 class of service.

No. 3 class of service: Subscribers who elect unlimited service over all four of the above toll lines in addition to the Prairie du Sac and Sauk City exchanges shall be charged at the rate of $2.40 per year in addition to the rate for the No. 1 class of service.

Toll Rates.

For calls over the four toll lines above mentioned not included in the above schedule of flat rates a toll charge is proposed as follows:

Mazomanie line	10 cts.
Lodi line	10 cts.
Plain line	10 cts.
Loganville line	5 cts.

All calls to foreign exchanges should be routed over the through lines where such lines exist, except in cases when the through lines are out of order. The line to Loganville is a heavily loaded line and should not, from the standpoint of adequate service, be used as a through line between central offices. However, in view of the fact that this is a rather long line (approximately twenty-six miles) and the further fact that the amount of traffic going over the line is comparatively small the applicant can not at this time be required to build a through line to take care of the through traffic between the exchanges in question. The toll service over this loaded line can hardly be up to the standard of the service over the through lines hence a smaller toll charge for this line seems reasonable.

The increased returns arising from the adoption of the above schedule are, as a whole, rather difficult to determine accurately. Assuming that the number of telephones remains unchanged the increase due to the flat rates alone will be approximately $890 which about equals the amount of deficit under which the company operated for the year ending June 30, 1913. This does not take into consideration the extra return from subscribers who will elect the No. 2 and No. 3 classes of service and the amount of toll arising from the imposition of a toll charge upon the four

toll lines. The amount of the return from these sources is more or less a matter of conjecture. It is believed, however, that it will be sufficient to justify the Commission in requiring the applicant to make some definite effort toward the decreasing of the number of rural patrons per line and the general improvement of service. The applicant will therefore be required to submit to the Commission and have approved by it before the adoption of this schedule of rates, a definite statement of miles of wire, number of poles, cross-arms, etc., which it proposes to install during the coming year for the purpose of relieving the present congestion on these lines. Further, the applicant will be required to keep all of its equipment in reasonable repair at all times. In connection with the above provision it will be ordered that an accurate record be kept of all trouble. This record is to include date and time trouble is reported, by whom reported, nature of trouble, and lines or telephones involved, date and time repaired and by whom repaired.

The above rate schedule contemplates a reduction in the present rate on rural silent call telephones. The extra operation and maintenance expense incident to this class of phone does not appear to justify a rate of over $1 per year above the straight ringing class of service. It seems logical, however, that the applicant be protected from an excessive demand for this class of telephone which would throw out of use part of the already installed equipment and also that the applicant be compensated for the replacing of existing equipment with silent ringing instruments when this service is demanded by the subscribers. A charge of $2 per phone seems fair and the applicant will be authorized to make this charge when, upon request of the subscriber, an instrument is removed and replaced by a silent call telephone. No installation charge is to be made on new construction.

In cases involving the automophone and harmonic ringing instruments no extra charge will be authorized for replacing existing equipment with these classes of equipment. In lieu thereof, however, the applicant will be authorized to use its discretion relative to the installation of these types of instruments so long as no discrimination is practiced.

It seems to be a rather general practice among the better operated telephone companies to charge for service in advance. This practice seems to be a legitimate one and will be authorized in this case.

For failure to pay rental within one month after it is due a penalty of 10 cts. per month or part thereof seems justifiable and will therefore be allowed.

Rentals from village phones will be payable at the central office quarterly in advance. Rentals from rural phones will be payable at the central office six months in advance. Bills for rentals should be mailed to all subscribers when rental is due in order that patrons may be kept informed as to their financial relations with the company.

The applicant's books were found to have been kept in a poor manner viewed from an accounting standpoint. In fact, it was only by a strict audit that the actual financial condition of the company could in any way be determined. The applicant will be required to keep a set of books conforming to the requirements of the Commission.

IT IS THEREFORE ORDERED, That the Troy & Honey Creek Telephone Company, the applicant in this case, be authorized to suspend the rate schedule for telephone service now in effect and substitute therefor the following schedule. This schedule may become effective only at such time as the applicant has complied fully with all of the provisions of this order.

SCHEDULE OF TELEPHONE RATES.

Flat Rates.

	Rate per year
Rural telephones:	
Business, straight ringing	$15.00
Business, silent call	16.00
Residence, straight ringing	13.50
Residence, silent call	14.50
Village telephones:	
Business, 1 party, straight ringing	17.00
Business, 1 party, automophone	18.00
Business, 2 party, straight ringing	14.00
Business, 2 party, harmonic ringing	15.00
Residence, 1 party, straight ringing	15.00
Residence, 1 party, automophone	16.00
Residence, 2 party, straight ringing	13.00
Residence, 2 party, harmonic ringing	14.00
Residence, 4 party, straight ringing	12.00
Residence, 4 party, harmonic ringing	13.00
Extension phones (talking set only)	6.00
Extension bells	3.00

No. 1 class of service: The above flat rates shall entitle subscribers to elect, in addition to the service of the Prairie du Sac and Sauk City exchanges, unlimited service over one of the four

toll lines connecting the applicant's exchanges to the following foreign exchanges: Mazomanie, Lodi, Plain and Loganville.

No. 2 class of service: Subscribers who elect in addition to No. 1 class of service unlimited service over a second one of the above toll lines shall be charged at the rate of $1.60 per year in addition to the rate for the No. 1 class of service.

No. 3 class of service: Subscribers who elect unlimited service over all four of the above toll lines in addition to the Prairie du Sac and Sauk City exchanges shall be charged at the rate of $2.40 per year in addition to the rate for the No. 1 class of service.

Election of class of service and toll lines shall be made six months in advance for all subscribers.

Nonsubscribers shall be charged at the rate of 10 cents per call.

Toll Rates.

A toll charge as follows shall be made over each of the four above mentioned toll lines for such calls as do not come under the above schedule of flat rates:

Prairie du Sac and Sauk City to Lodi.....10 cts.
Prairie du Sac and Sauk City to Mazomanie....10 cts.
Prairie du Sac and Sauk City to Plain.....10 cts.
Prairie du Sac and Sauk City to Loganville..... 5 cts.

The above toll rates shall not affect the extent of free service now being rendered to the Troy and Honey Creek Telephone Company by the foreign companies whose exchanges are listed above.

IT IS FURTHER ORDERED: 1. That all calls to foreign exchanges shall be routed over the through lines where such lines exist, except when the through lines are out of order.

2. That a charge of $2 per phone shall be made by the applicant for replacing, upon the request of the subscriber, existing substation equipment with the silent ringing telephone.

3. That no extra charge shall be made when existing substation equipment is replaced by harmonic ringing telephone or automophones. However, the applicant may establish such other reasonable rules as it sees fit relative to the installation of this type of telephone, providing no discrimination is practiced.

4. That rentals from rural telephones shall be payable six months in advance at the main office of the applicant. Rentals from village telephones shall be payable three months in ad-

vance either at the exchange to which subscriber's telephone is directly connected or to the collectors of the applicant. The applicant shall determine which method of collection it shall adopt.

5. That statements of rentals and tolls shall be mailed by applicant to all subscribers when rentals are due. Subscribers shall be given one month in which to pay rental. Thereafter a penalty of 10 cts. per month shall be applied. For refusal to pay telephone rental for two months telephones shall be disconnected or removed.

6. That the applicant shall submit to the Commission for approval a statement of changes which it proposes to make during the year following the adoption of this schedule, relative to the rearranging of party lines so that there will be fewer phones per line on the heavily loaded lines. This statement shall give the number of miles of wire to be put up, number and size of poles, cross-arms, etc. and also the number of subscribers for each line under the proposed rearrangement. The number of subscribers shall not exceed 15 per line and should not be greater than 12 per line unless abnormal conditions warrant.

7. That the applicant shall keep all of its equipment in reasonable repair. In connection with this requirement the applicant shall keep, open to public inspection, a record of all trouble occurring on its equipment. This record shall include:

a. Date and time trouble is reported.

b. By whom reported.

c. Nature of trouble and lines or telephones involved.

d. Date and time repaired.

e. By whom repaired.

8. That the applicant shall, before this schedule is adopted, install and have in operation a set of books approved by this Commission.

BARKHAUSEN COAL AND DOCK COMPANY,
F. HURLBUT COMPANY
vs.
GREEN BAY AND WESTERN RAILROAD COMPANY.

Submitted Feb. 10, 1914. Decided March 18, 1914.

The petitioners allege that the refusal of the respondent to absorb the switching charges of $2 per car on coal shipped by them to non-competitive points on the respondent's line from the tracks of the C. & N. W. Ry. Co. and the C. M. & St. P. Ry. Co. in Green Bay effects a discrimination against the petitioners by reason of the fact that competing shippers located on the respondent's tracks are not required to pay this charge.

There is no uniform practice among the railroads of the state as to the absorption of switching charges nor have the railroads evolved, or sought to evolve, any principle that would serve as a basis upon which to determine what charges are equitable in a given case. The practice of the railroads in this matter has therefore become more or less arbitrary and inequitable.

Held: The practice of the respondent in the present instance should be discontinued. The respondent is ordered to absorb switching charges on coal in carload lots from Green Bay to non-competitive points upon its lines down to a minimum return of $15 per car, in the same manner as it now absorbs such charges on shipments to competitive points upon its lines.

This case comes before the Commission in the form of two complaints, one by the Barkhausen Coal & Dock Company and the other by the F. Hurlbut Company, both of Green Bay, against the Green Bay & Western Railroad Company, setting forth that the respondent company, by refusing to absorb the switching charges of $2 per car on coal shipped to non-competitive points on its line from the tracks of the Chicago & North Western Railway Company and the Chicago, Milwaukee & St. Paul Railway Company, effects a discrimination against certain shippers, and a hardship for shippers of coal generally at Green Bay not on the tracks of the said respondent company.

A hearing was held at the Capitol at Madison on February 10, 1914, at which *H. G. Barkhausen* appeared for the two petitioners, and *J. B. Call,* general passenger and freight agent, for the respondent company.

In substance the complaint recites that the Barkhausen Coal

& Dock Company has its plant located on the Chicago, Milwaukee & St. Paul Railway and the Chicago & North Western Railway tracks; that it ships from one to three carloads of coal a day to non-competitive points on the respondent company's line and on such shipments has to pay a switching charge of $2 per car from its plant to the tracks of the respondent company; that the C. Reiss Coal Company, located on the tracks of said respondent company, does not pay switching charges on such shipments, hence the petitioner is placed at a marked disadvantage in competing for business to the said non-competitive points on the respondent company's line. It is further alleged that the respondent does absorb switching charges where the destination of the shipment is a competitive point on its line.

The F. Hurlbut Company is located on the tracks of the Chicago, Milwaukee & St. Paul Railway Company and is similarly discriminated against upon shipments to the respondent's non-competitive points; but is not similarly discriminated against when shipping to non-competitive points on the Chicago & North Western Railway Company's lines.

Both petitioners allege that the Chicago & North Western Railway Company and the Chicago, Milwaukee & St. Paul Railway Company absorb switching charges on coal to non-competitive points on their respective lines whenever the earnings per car of a given shipment nets the company $15 or more; that while the volume of the respondent company's business is much smaller than that of either of the other lines named, the fact that the rates charged by the respondent company on coal shipments are higher than the rates charged by the other two companies, justifies the demand that the respondent company absorb switching charges on the same basis as the other two companies. The petitioners therefore pray that the respondent company be directed to absorb the switching charges of $2 per car on coal shipments to non-competitive points on its lines, down to a return of $15 or more per car, and thus handle the coal shipments from Green Bay on the same basis as the other two railway companies named handle it.

There is no uniform practice among the railroads of the state as to the absorption of switching charges, nor, apparently, have the roads evolved, or sought to evolve, any principle that would serve as a basis upon which to determine what charges are equitable in a given case. If there were such a basis it would be

a very simple matter to dispose of such complaints as the ones under consideration. It has been left for the most part to the exigencies of competition, or the pressure of other circumstances to determine what should be done in each case. Naturally the whole practice has become more or less arbitrary and inequitable. Mr. Call for the respondent company vigorously arraigns the present practice in a letter filed with the Commission after the hearing in the case. He likens it to a feudal system and asserts that it is as iniquitous as the old rebate system.

But Mr. Call's arraignment offers no remedy for the particular complaints before us, loudly as it calls for the abolition of the whole practice. Nor does the contention of his company that switching charges are distinct from carrying charges and should be separately considered. That they are distinct is true only in a limited sense. If an analysis of cost of service is being made, or a basis of distribution of loading is being sought, then the switching charges, as component elements of the transportation charge, must be separated. In a wider sense, however, and in the view of the shipping and receiving public, the charge for switching is merely one of the elements which go to make up the cost of transportation.

The one fact which stands out most conspicuously in this case is that the respondent company, by refusing to absorb switching charges of $2 per carload on coal destined for non-competitive points upon its own lines, is placing at a serious disadvantage shippers to those points whose shipments are loaded on tracks of other companies. The shippers of coal thus discriminated against, it should be understood, have no corresponding advantages, through locations on other tracks, over a competitor located on the respondent company's tracks. As the matter now stands there is no way by which the disadvantages of the two petitioners located on the tracks of other companies, as compared with their competitors located upon the tracks of the respondent company, can be offset or equalized. When the favorably situated competitor ships coal to non-competitive points on the lines of either the Chicago & North Western Railway Company or the Chicago, Milwaukee & St. Paul Railway Company, his switching charges are absorbed down to net earnings of $15 per car. In other words, one shipper, owing to his location, has an absolute advantage over his competitors of $2 per car on all shipments to all points reached exclusively by the respondent company. It

needs no argument to prove that such a state of affairs is highly undesirable, and that it should not be continued for a time longer than is necessary to change it.

Conceding that if the respondent company be required to absorb the switching charges in question, a part at least of the disadvantage under which the petitioners are laboring will be shifted to the respondent company, it is plain that the disadvantage cannot rest so heavily upon the company as it now does upon the petitioners. It is true the shifting cannot wholly remedy the conditions. It is, under the circumstances, but a choice of the lesser of two evils. It can be considered but a local and temporary relief from conditions to which must ultimately be applied a more radical remedy.

IT IS THEREFORE ORDERED, That the Green Bay & Western Railroad Company hereafter absorb switching charges on coal in carload lots from Green Bay to non-competitive points upon its lines down to a minimum return of $15 per car, in the same manner as it now absorbs such charges on shipments to competitive points upon its lines.

CITY OF MONROE
vs.
CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Submitted June 14, 1913. Decided March 18, 1914.

The petitioner alleges that the highway bridge over the respondent's tracks at Main st. in the city of Monroe is unsafe and asks that the respondent be required to replace the bridge with a steel and cement viaduct. The respondent questions the jurisdiction of the Commission.

Held: (1) The Commission has jurisdiction under sec. 1797—12*e* of the statutes to pass upon the safety of a crossing not at grade upon complaint by the proper municipal authorities. (2) The crossing in question is dangerous.

It is ordered that the respondent improve the approaches to the bridge and construct sidewalks on the sides of the bridge as specified, plans to be submitted for approval. The city of Monroe is to pay 20 per cent of the cost as determined by the Commission, and the respondent is to pay the remainder. The improvements ordered are to be completed and open for the use of the public by June 15, 1914.

The petition is signed by the mayor and city clerk of the city of Monroe, pursuant to a resolution by the common council, and by fourteen other persons. In the preliminary proceedings this case was erroneously captioned: *James O. Fidler et al. v. Chicago, Milwaukee & St. Paul Railway Company.* The petition alleges that the highway bridge over the tracks of the Chicago, Milwaukee & St. Paul Railway Company at Main street in the city of Monroe, Green county, Wis., is in a dilapidated condition as to the structure and approaches and that it is narrower than the highway and too low to comply with the law. The opinion is expressed that the present condition of the structure and approaches is unsafe. The Commission is therefore asked to require the respondent to replace the present bridge with a new steel and cement viaduct the full width of the street with proper sidewalks on both sides.

No answer was filed for the respondent.

A hearing was held on June 14, 1913, at the city hall, Monroe, Wis. *James O. Fidler* appeared for the petitioner, and *J. N. Davis* for the respondent.

From the testimony it appears that the bridge in question is

a framed timber structure having a vertical clearance of 19 feet 9 inches and a width of 18 feet 8 inches in the clear. It is 81 feet long and has guard rails 3 feet 8 inches in height. There are five spans, the middle one directly over the rails being 20.6 feet in length. This middle span is level, but the other parts of the bridge and the approaches descend from it. The level of the street south of the bridge is about 6.7 feet lower than the middle span, and the level of the street north of the bridge about 7 feet lower. No sidewalks are provided for the use of pedestrians.

Witnesses for the petitioner testified that the bridge is too narrow to allow teams or automobiles to pass each other safely. At times drivers will wait until the bridge is clear before venturing across, thus impeding traffic. It is impossible to see vehicles approaching from either side from the opposite approach on account of the ascent to the bridge, and this was said to be a dangerous condition. The danger to pedestrians because of the narrowness of the bridge was also emphasized. Witnesses for the petitioner expressed the opinion that the timbering of the bridge is decayed and in a dangerous condition, but the district carpenter of the company testified that he had made a careful inspection and found all of the timbers sound with the exception of three or four floor joists. He said that the lower timber has been in place only since February, 1912. He expressed the opinion that the existing structure is sound and will be safe for public travel for at least five years.

The testimony shows that the bridge has been in place more than fifteen years and that the travel over it has materially increased during that period. According to the estimates of the mayor and city clerk, from 86 to 130 people living south of the tracks ordinarily use this bridge in going to the main part of of the city. Monroe has a population of about 4,300. It was said that a great deal of country traffic enters and leaves the city over the Main street bridge. A traffic count, made at the bridge by an employe of the company from 7 a. m. to 10 p. m. on Friday, June 13, 1913, shows 283 pedestrians, 85 teams and 52 automobiles. A witness for the petitioner estimated that when the roads are good, from 30 to 50 automobiles cross during the evening. He also stated that from 50 to 60 school children are obliged to cross the bridge three or four times a day on their way to and from school. It appears that a pleasure park is located south of the tracks and that on certain days a great many cross the bridge in going to and coming from this resort.

On the basis of two separate investigations, our engineer reports that the structure is in sound condition, with an estimated life of from five to seven years. He recommends, however, that the ends of the incline trestle approaches be elevated and that the earth approaches be graded in such a way that the grade of approach to the center span of the bridge shall not at any point exceed 5 per cent. He further recommends that suitable sidewalks be built on each side of the bridge and properly connected with the existing sidewalks on Main street, suitable hand railings to be provided as far as necessary.

The estimated cost of the improvements recommended, assuming that macadam surface for a roadway width of 20 feet is provided on the approaches, totals $1,133, of which $417 would be incurred within the railway right of way and $716 outside of the right of way lines.

The representative of the company at the hearing questioned the jurisdiction of the Commission in the present case. Sec. 1797–12*e* empowers the Commission to require an alteration in a crossing upon a petition brought by the common council of a city, and does not specify that the crossing to be altered must be at grade. The following section, 1797—12*f*, however, does specify that a crossing considered on motion of the Commission must be at grade. The legislature apparently intended that the safety of an existing bridge or subway should be passed upon by the Commission only upon complaint by the proper municipal authorities. The petition herein is signed by the mayor and the city clerk pursuant to a formal resolution of the council, and is therefore entirely competent to bring the matter before the Commission. Action was taken in a very similar case *(Town of Westport v. C. & N. W. R. Co.* 1912, 9 W. R. C. R. 218).

The complaint alleges that the bridge is too low to comply with the law. There is no statute which requires a railway company to provide a specified vertical clearance under highway bridges constructed by it. Sec. 697–35 provides that bridges over railways erected by certain counties shall have a clearance of 23 feet, but this section is not applicable to the bridge in question. The legislature has recognized the existence of lower bridges in sec. 1809–*e* which requires that "tell-tales" shall be provided at bridges which are less than seven feet above the roof of freight cars. In the present case "tell-tales" are provided and the law is therefore complied with.

In the light of the testimony and of the report of our engineering staff, it is our judgment that the crossing at Main street is dangerous to public travel, and that the improvements recommended by our engineer are necessary to adequately safeguard the public. The dangerous condition of the bridge could have been avoided when it was first constructed. The danger has been accentuated by the increase in volume and character of travel, but it has always been present in a certain measure. Whatever the character of the traffic, if pedestrians are obliged to use a bridge over a railway where horses are apt to become frightened and on which there is scarcely room for the safe passing of vehicles, such pedestrians are certainly endangered. However, the improvements will result in considerable benefit to the city and a portion of the cost should be borne by it. We regard as equitable an apportionment under which the respondent shall pay 80 per cent and the city 20 per cent of the cost.

IT IS THEREFORE ORDERED, That the respondent, the Chicago, Milwaukee & St. Paul Railway Company, elevate the ends of the incline trestle approaches of the bridge over its tracks at Main street in the city of Monroe, and grade the earth approaches so that the grade of approach to the center span of the bridge shall not exceed 5 per cent, the earth approaches to be surfaced in conformity with the abutting portions of Main street; construct on each side of the bridge a suitable sidewalk, properly guarded with hand rails on both sides, and not less than five feet wide in the clear; and connect said sidewalks with the existing sidewalks on Main street, providing hand rails as far as necessary; plans to be submitted to the Commission for approval.

IT IS FURTHER ORDERED, That said respondent railway company furnish all necessary material and labor, and perform all necessary work in making the alterations ordered herein; and that upon the completion of this work the respondent furnish the Commission with a complete and detailed account of all expenses incurred by it therein, whereupon the Commission, with or without further hearing as may be deemed best, will determine the actual cost of such alterations; and the city of Monroe shall thereupon pay to the respondent 20 per cent of the cost as so determined by the Commission, and 80 per cent of the cost shall be borne by the respondent.

June 15, 1914, is considered a reasonable date at which the improvements herein ordered shall be completed and open for the use of the public.

ETTRICK TELEPHONE COMPANY
vs.
WESTERN WISCONSIN TELEPHONE COMPANY,
LA CROSSE TELEPHONE COMPANY.

Submitted Feb. 18, 1914. Decided March 23, 1914.

The Ettrick Tel. Co. complains that it is unjustly discriminated against by reason of the fact that its subscribers are compelled to pay a toll charge of 15 cts. per message for service over the La Crosse Tel. Co's line between Galesville and La Crosse while the Western Wisconsin Tel. Co. is allowed to offer unlimited service over this line to its subscribers under a flat rate per year. The Western Wisconsin Tel. Co. and the La Crosse Tel. Co. appear to have an agreement by which toll messages are exchanged between the lines of the two companies and each company retains the tolls for messages originating on its own lines. The flat rate mentioned, $25 per year, covers unlimited service over the entire system of the Western Wisconsin Tel. Co. and free connection to La Crosse and to Winona, Minn. Subscribers of the Western Wisconsin Tel. Co. who pay rates of $12.50 and $15 per year, according to the class of service received by them, pay the same rates for toll service to and from La Crosse as do subscribers of the Ettrick Tel. Co. The two methods of satisfying the complaint are considered: (1) the extension of the $25 flat rate to subscribers of the Ettrick Tel. Co.; and (2) the discontinuance of the rate. It appears that the volume of the toll business passing between the Ettrick Tel. Co. and the La Crosse Tel. Co. is very small, that the offering of unrestricted service over the La Crosse Tel. Co's line between La Crosse and Galesville to subscribers of the Ettrick Tel. Co. under a $25 rate would lead to little use of the rate and that the discontinuance by the Western Wisconsin Tel. Co. of the $25 rate would be of no benefit to the Ettrick Tel. Co.

Held: The rates complained of are not unjustly discriminatory and the Ettrick Tel. Co. is not burdened unjustly because of their existence. The complaint is dismissed.

The petition of the Ettrick Telephone Company was filed with the Commission on December 31, 1913. The petition shows that petitioner is a telephone utility with exchanges at Ettrick and Galesville in Trempealeau county, Wis., and surrounding rural territory. The petition further shows that the Western Wisconsin Telephone Company is a public utility operating exchanges at Galesville and other places in Trempealeau county and that the La Crosse Telephone Company is a public utility operating

a telephone exchange at La Crosse and at other points, with toll lines running into Galesville, Wis.

Without being set forth in detail as shown in the complaint, the matters complained of may be stated as follows: The La Crosse Telephone Company and the Western Wisconsin Telephone Company appear to have an agreement by the terms of which toll messages are exchanged between the lines of these companies and each company retains the tolls for messages originating on its own lines. This agreement also permits the Western Wisconsin Telephone Company to send messages to Winona, Minn., retaining the entire revenue from such messages. The Ettrick Telephone Company has physical connection with the toll lines of the La Crosse Telephone Company at Galesville, Wis., connection being made through the switchboard of the Western Wisconsin Telephone Company. The toll charge for messages from the Ettrick Telephone Company to La Crosse is 15 cts. per message. The Western Wisconsin Telephone Company, however, by virtue of its agreement with the La Crosse Telephone Company, offers to its subscribers a somewhat different set of toll rates. The message toll rate is 15 cts., or the same as the charge which is made to the subscribers of the Ettrick Telephone Company for connection with La Crosse. The Western Wisconsin Telephone Company, however, has a variety of exchange rates. For $12.50 per year subscribers can obtain service within the limits of the village where they live. For $15 per year rural subscribers secure connection with their market places, and local subscribers are given connection not only with the local subscribers of their exchange, but with rural subscribers reached through that exchange. For $25 per year the Western Wisconsin Telephone Company furnishes unlimited service over its entire system, embracing nine exchanges in Trempealeau and Buffalo counties, and free connection to La Crosse and Winona.

The Ettrick Telephone Company feels that a discrimination is practiced because subscribers of the Western Wisconsin Telephone Company are able to secure unlimited telephone service to La Crosse and Winona at a flat rate per year and subscribers of the Ettrick Telephone Company can secure connection to La Crosse and Winona only on a message rate basis. The Western Wisconsin Telephone Company, as previously stated, retains the entire amount of toll revenues for messages originating on its system and sent to La Crosse and Winona, but the Ettrick Tele-

phone Company secures only a percentage on originating messages. Representatives of the Ettrick Telephone Company did not state whether they preferred to have a $25 rate placed upon subscribers of their company for unlimited service to La Crosse and Winona or whether they wished to have the $25 rate of the Western Wisconsin Telephone Company suspended as far as its application to the toll business is concerned and have all subscribers of the Western Wisconsin Telephone Company pay the message rate for toll messages from Galesville to La Crosse and Winona.

Hearing in this matter was held on February 18, 1914, at Madison, Wis. Appearances were as follows: For the Ettrick Telephone Company, *John Norgaard* and *A. M. Helleckson;* for the Western Wisconsin Telephone Company, *J. C. Gaveney;* and for the La Crosse Telephone Company, *J. M. Storkerson.*

It appears that the La Crosse Telephone Company owns the wire for the complete toll circuit between Galesville and La Crosse, but that for a distance of some six miles this wire is carried on poles of the Western Wisconsin Telephone Company, from Galesville to Hunter's Bridge. The Western Wisconsin Telephone Company has metallic toll lines connecting its various exchanges in Trempealeau and Buffalo counties, so that there is a joint ownership of the toll system which is used in exchanging messages between the Western Wisconsin Telephone Company and the La Crosse Telephone Company, although between Galesville and La Crosse only a small portion of the line is owned by the Western Wisconsin Telephone Company.

It appears from the record in this case that it would be impracticable to provide a $25 rate on the lines of the Ettrick Telephone Company for service to La Crosse and Winona. The Ettrick Telephone Company serves a much more restricted area than does the Western Wisconsin Telephone Company, and the $25 rate of the Western Wisconsin Telephone Company covers not only toll messages to La Crosse and Winona, but unlimited service over its own system. If a $25 rate were, therefore, put in effect on the Ettrick Telephone Company's system, the service furnished would not be equivalent to that furnished to such subscribers of the Western Wisconsin Telephone Company as choose the $25 rate.

Furthermore, it does not appear from the records in the case that a $25 rate would be of any advantage to the Ettrick Tele-

phone Company, since the volume of the toll business passing between the Ettrick Telephone Company and the La Crosse Telephone Company is exceedingly small. According to a statement filed by the La Crosse Telephone Company for the period from July 18, 1913, to March 1, 1914, or somewhat over seven months, only three messages were sent from La Crosse to the Ettrick Telephone Company over the lines of the La Crosse Telephone Company and only two messages over these lines from the Ettrick Telephone Company to La Crosse. Over the Wisconsin Telephone Company's lines three messages were sent from La Crosse to the Ettrick Telephone Company and seven messages from the Ettrick Telephone Company to La Crosse. From Bangor and New Richmond to the Ettrick Telephone Company a total of three messages were sent. It is reasonable to assume that if unlimited facilities for exchanging toll messages were furnished without additional charge, the amount of toll business would be increased between La Crosse and the Ettrick Telephone Company. But the statement of toll business actually done does not appear to warrant the conclusion that there is so great a demand for unrestricted exchange of toll messages on the part of subscribers of the Ettrick Telephone Company as to lead to any considerable use of a $25 rate if such a rate were offered to subscribers of the Ettrick company.

The present rates of the Ettrick Telephone Company are exceedingly small, being only $5 or $6 per year, depending upon certain rules of the company. It is apparent that the demand for toll business is not such as to lead any considerable number of subscribers to pay approximately $20 per year additional merely for the toll service.

The other way in which the demands of the Ettrick Telephone Company might be met would be to abolish the $25 rate and unlimited toll service of the Western Wisconsin Telephone Company. The testimony introduced on behalf of the Ettrick Telephone Company in the form of affidavits makes it appear, as is undoubtedly the case, that the flat rate for messages from the Western Wisconsin Telephone Company to La Crosse encourages the sending of such messages, but that the message rate from La Crosse to the Western Wisconsin Telephone Company tends to restrict the number of messages. It is therefore probable that parties on lines of the Western Wisconsin Telephone Company who are using the $25 rate are obtaining certain advantages

which are not obtainable by subscribers of the La Crosse Telephone Company or by subscribers of the Ettrick Telephone Company. This rate, however, has been in force for a considerable time. Although the testimony did not show that there was a written contract between the La Crosse Telephone Company and the Western Wisconsin Telephone Company specifying the conditions under which toll messages should be exchanged, it appears that there was undoubtedly an agreement between these companies that each should retain all toll on messages which they originated, and that the $25 rate of the Western Wisconsin Telephone Company was acceptable to the La Crosse Telephone Company.

The Ettrick Telephone Company has toll connection with the lines of the La Crosse Telephone Company upon the same conditions as do subscribers of the Western Wisconsin Telephone Company who pay the $12.50 and $15 rates. Inasmuch as it appears certain that a $25 rate is not demanded by subscribers of the Ettrick Telephone Company because of the small volume of their toll business with La Crosse and Winona, we do not see that there is a discrimination between the Ettrick Telephone Company and the Western Wisconsin Telephone Company which should be removed by order of this Commission. If the $25 rate were established for both the Ettrick Telephone Company and the Western Wisconsin Telephone Company the situation would apparently be about the same as at present, since there is no evidence to show that a $25 rate would be of any value to the Ettrick Telephone Company. If the $25 rate of the Western Wisconsin Telephone Company were ordered discontinued, we fail to see where the Ettrick Telephone Company would gain. Its rate to La Crosse would be the same as at present. The only readjustment would be one affecting different classes of subscribers of the Western Wisconsin Telephone Company. There is, however, no complaint in this case from subscribers of the Western Wisconsin Telephone Company alleging that the $25 rate discriminates against those who pay the $12.50 and $15 rates.

Some consideration must undoubtedly be given to the argument of the Western Wisconsin Telephone Company that conditions throughout the territory served by that company have become adjusted to its schedule of rates. This does not mean that because of such an adjustment an unjustly discriminatory rate

should be continued. But we do not find that the rates complained of in this case are unjustly discriminatory. They may not be such rates as are dictated by the most modern telephone practice. They do not appear, however, to be seriously or unjustly discriminatory, nor does it appear that the Ettrick Telephone Company is being burdened unjustly because of the existence of such rates. The subscribers of the Ettrick Telephone Company, as stated, have the same advantages with regard to toll service as do the Western Wisconsin Telephone Company's subscribers who pay the $12.50 and $15 rates, and inasmuch as there has been very little use of the toll lines between the Ettrick Telephone Company and La Crosse, we do not see that the subscribers of the Ettrick Telephone Company can reasonably be compared with those subscribers of the Western Wisconsin Telephone Company who are paying the $25 rate. As between the other subscribers, there is no discrimination with regard to toll service, and as between the $25 subscribers of the Western Wisconsin Telephone Company and the subscribers of the Ettrick Telephone Company, if there is a discrimination it does not appear that this discrimination is one which works injustice to the Ettrick Telephone Company and therefore requires the abolition of the $25 rate.

In view of all the facts which have been presented in this case we fail to find that there is an unjust discrimination between the Western Wisconsin Telephone Company and the Ettrick Telephone Company or their subscribers in the toll business passing to or from La Crosse.

IT IS THEREFORE ORDERED, That the complaint in this matter be and the same is hereby dismissed.

NEW DELLS LUMBER COMPANY

vs.

CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY COMPANY.

Decided March 24, 1914.

The petitioner alleges that the distance tariff rate exacted by the respondent, in the absence of a switching rate governing the movement, for the transportation of seventeen cars of ties and rails from Lange Spur to Hotchkiss Spur, a distance of 2.1 miles, between Draper and Kaiser, Wis., was exorbitant and asks for refund on the basis of a trackage rate of $1 per car. The respondent is willing to make refund.

Held: The charge complained of was unusual and exorbitant. Refund is ordered on the basis of a rate of $1 per car which would have been the reasonable rate for the service performed.

The petitioner is engaged in the lumber business at Eau Claire, Wis. It alleges that on November 4, 1912, it shipped from Lange Spur to Hotchkiss Spur, a distance of 2.1 miles, seventeen cars of ties and rails; that both of said spurs are located between Draper and Kaiser, Wis., on the respondent's line; that the fifth class rate of 4 cts. per cwt., subject to an estimated weight of 36,000 lb., was paid on said shipment; that the total weight of said shipment was 612,000 lb.; that because of the necessity of immediate movement of said shipment, it was impossible for the petitioner to wait until the respondent could publish and make effective a reasonable charge therefor, and that the rate exacted of the petitioner, though in accordance with the respondent's tariff G. F. D. 1555–C, was exorbitant when applied to the shipment in question; that the reasonable charge for such shipment is a trackage rate of $1 per car; that the total amount of freight paid by petitioner on said shipment is $244.80, and that if a rate of $1 per car had been in effect, the charge would have been but $17. The petitioner therefore prays that the respondent be authorized and directed to refund to it the sum of $227.80.

The respondent, answering the petition, admits all the allegations thereof and alleges that it is willing to adjust the charges upon the basis of $1 per car.

The matter was submitted upon the pleadings, papers and documents on file. The time of hearing was waived.

The facts are clearly stated in the pleadings, and need not be repeated. In the absence of a switching rate, the respondent was obliged to charge its regular distance tariff rate. This, of course, was prohibitive.

We find and determine that the charge exacted of the petitioner on the aforesaid shipment was unusual and exorbitant, and that the reasonable rate that should have been in effect and applicable on such shipment is $1 per car. The reparation that will be awarded amounts to $227.80.

NOW, THEREFORE, IT IS ORDERED, That the Chicago, St. Paul, Minneapolis & Omaha Railway Company be and the same is hereby authorized and directed to refund to the New Dells Lumber Company the sum of $227.80.

PESHTIGO LUMBER COMPANY

vs.

CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY, WISCONSIN AND MICHIGAN RAILWAY COMPANY, WISCONSIN NORTHWESTERN RAILWAY COMPANY.

Decided March 24, 1914.

The petitioner alleges that the charges collected by the respondents for the transportation of thirteen shipments of cedar posts from Taylor Rapids to Peshtigo were erroneous and illegal and asks for refund. The charges in question were based on a rate of 8½ cts. per 100 lb., then in effect from Taylor Rapids to Bagley Jct., plus a charge of $3 per car from Bagley Jct. to Peshtigo. At the time the shipments moved a rate of 6½ cts. per 100 lb. was in effect from Taylor Rapids to Marinette and Menominee, Mich., points beyond Bagley Jct. on the C. M. & St. P. Ry., and this rate has since been put into effect over the same line from Taylor Rapids to Bagley Jct. The C. M. & St. P. Ry. Co. is willing to grant the relief asked.

Held: The charges complained of were unusual and exorbitant. Refund is ordered upon the basis of a rate of 6½ cts. per 100 lb. from Taylor Rapids to Bagley Jct., plus $3 per car from the latter point to Peshtigo, which would have been the reasonable charges for the service performed.

The petitioner alleges that it made thirteen shipments of cedar posts from Taylor Rapids, Wis., in May 1913, for concentration to it at Peshtigo, Wis., via the Wisconsin Northwestern railroad to Girard Junction, the Chicago, Milwaukee & St. Paul railroad to Bagley Junction, and the Wisconsin & Michigan railroad to destination; that all of said carriers, insofar as the shipments in question are concerned, operate within the state of Wisconsin; the charges were collected on the basis of a rate then in force of 8½ cts. to Bagley Junction plus $3 per car beyond; that at the time the shipments in question moved the tariff of the Chicago, Milwaukee & St. Paul Railway Company, namely, 8797–A, provided a rate of 6½ cts. per 100 lb. on shipments of cedar posts from points on the Wisconsin Northwestern railroad, including Taylor Rapids to Marinette and Menominee, Mich.; that Bagley Junction is directly intermediate between Taylor Rapids and Marinette and Menominee; that subsequent

to the time the shipments in question were made the Chicago, Milwaukee & St. Paul Railway Company amended its tariff by publishing a through rate, Taylor Rapids to Peshtigo, of 6½ cts. per 100 lb. plus $3 per car, as per its tariff G. F. A. 8797–B, effective November 24, 1913; that the rate assessed on the shipments in question was erroneous and illegal because it was higher to an intermediate point on the same commodity than to a more distant point; and that under the lower rate subsequently published it is entitled to $104.33 refund. Wherefore, the petitioner prays that the respondent railway companies be required to refund to it the said sum of $104.33.

The Chicago, Milwaukee & St. Paul Railway Company, answering the petition, admits all the allegations thereof and expresses its willingness to grant the relief asked.

The hearing was waived and the claim was submitted upon the pleadings, papers and documents on file. An examination discloses that all the material facts in the case are as set forth in the petition and admitted in the answer.

We therefore find and determine that the charges exacted of the petitioner by the respondent railway companies upon the aforesaid shipments of cedar posts from Taylor Rapids to Peshtigo, Wis., were unusual and exorbitant, and that the reasonable rate for such shipments is 6½ cts. per 100 lb. from Taylor Rapids to Bagley Junction, plus $3 per car from the latter point to Peshtigo. The total amount of charges paid by the petitioner was $482.31. Based upon a rate of 6½ cts. per 100 lb. from Taylor Rapids to Bagley Junction, plus $3 per car from the latter point to Peshtigo, as provided in Chicago, Milwaukee & St. Paul tariff 8797–B, the amount of such charges would have been $377.98. Hence the excess charge is $104.33.

NOW, THEREFORE, IT IS ORDERED, That the respondent railway companies be and the same are hereby authorized and directed to refund to the petitioner the sum of $104.33.

IN RE INVESTIGATION OF CERTAIN OBSTRUCTIONS CONSTRUCTED IN AND OVER THE ROCK RIVER IN THE CITY OF JANESVILLE IN VIOLATION OF THE PROVISIONS OF SECTION 1596 OF THE STATUTES.

Submitted June 25, 1913. Finding filed March 25, 1914.

Complaint is made against the maintenance of certain piles, piers, walls and other obstructions constructed by private persons in and over the Rock river in the city of Janesville. The complainant alleges that these obstructions interfere with navigation; that they have seriously damaged the complainant; that they are a constant menace to the safety of the general public, to the property rights of the owners of property on the banks of the river in general and to those of the complainant in particular; and that their maintenance is in violation of sec. 1596 of the statutes; and asks that the Commission investigate the conditions set forth and report upon them to the governor as required by the section cited. The obstructions mentioned in the petition refer chiefly to buildings which stand within the river boundaries on piles and piers abutting the Milwaukee street bridge and the Court street bridge and the filling in for foundations on the west side of the stream in Janesville. A survey of the Rock river in Janesville was made and soundings were taken to ascertain the probable effects of the obstructions in question in case of floods. It is conceded that none of the structures of which complaint is made, with one exception, were placed or maintained in the river under legislative authority, but it is contended on the part of property owners that, notwithstanding this fact, these structures are not nuisances and that they therefore cannot be removed at the instance of the state or of any private citizen.

Finding: 1. That Rock river in the city of Janesville is a navigable stream.

2. That the river is navigated by row boats, motorboats, and other water craft.

3. That the piers and other structures delineated upon the map on file at the office of the Commission constitute obstructions to navigation and to the natural flow of the water in the stream and have a tendency to narrow the channel of the stream.

4. That in case of very high water, logs, lumber, wood and drift coming down the stream are likely to lodge against such obstructions, preventing the free passage of the water through the natural channel and thereby causing injury and damage to property within the city of Janesville.

The legality of the maintenance of the obstructions in question is not passed upon.

This is a proceeding under sec. 1596 of the statutes (as amended by ch. 652, laws of 1911, and ch. 17, special session laws

of 1912), which makes it the duty of the Railroad Commission to report to the governor of the state any violation of those provisions of the section which prohibit the maintenance of obstructions in or over the navigable rivers and streams of the state. Complaint in the matter was brought, an investigation was made by the Commission, and the findings of the Commission were filed on March 25, 1914, and reported to HIS EXCELLENCY FRANCIS E. MCGOVERN, governor of the state of Wisconsin, as follows:

"C. S. Jackman of Janesville, Rock county, Wis., by Messrs. Richmond, Jackman & Swansen, his attorneys, complains and says that he is a resident, a taxpayer, and freeholder of the city of Janesville, Rock county, Wis.; that he with C. W. Jackman is the owner of certain property situated at the corner of Milwaukee and Main streets in the city of Janesville and running to the back of Rock river where the Milwaukee street bridge crosses the said Rock river; that by virtue of said riparian ownership, he and the said C. W. Jackman are entitled to all the benefits and rights which may accrue to that portion of the bed of Rock river between the thread of said stream and the bank thereof on the northeasterly side of said Milwaukee street bridge; that said space in said Rock river has not been built upon by this complainant or any other persons, and that no obstructions are now in that portion of said river to which said complainant and said C. W. Jackman have the title; that located upon the ground immediately adjoining said Rock river and at the corner of Milwaukee and Main streets and running from thence to the bank of said river there is a large office building which is the property of said complainant and C. W. Jackman; that the Rock river at the city of Janesville and at the space hereinbefore mentioned is a navigable stream and navigable in fact, and for a long distance on each side thereof is a navigable stream and navigable in fact; that various persons have placed in said Rock river at the Milwaukee street bridge divers and many obstructions; that the entire southerly side of the Milwaukee street bridge has been covered by buildings erected upon piles, piers, and concrete foundations; that most of said buildings were originally erected upon piles, but that subsequently, and without the knowledge of this complainant or any other parties, as far as this complainant is informed, the owners of said buildings have covered a considerable number of said piles with steel or corrugated iron coverings and have filled in between the original piles and said corrugated iron coverings with concrete, largely increasing the size of the obstruction in said Rock river; that in addition thereto there have been placed in said Rock river large piers made of concrete and stone which were used as a foundation for the said buildings in said river; that in addition thereto and extending out for a distance of approximately twenty feet from the west

bank of said river, where the said Milwaukee street bridge crosses said Rock river in the city of Janesville, concrete walls have been built and earth, rocks, and other materials filled in; that in addition thereto on the northwesterly side of said river, where the said Milwaukee street bridge crosses said Rock river in the city of Janesville, buildings have been built upon piles and piers and concrete foundations, extending to the middle of said river, so that the only part of said river where the said Milwaukee street bridge crosses said Rock river in the city of Janesville which has not been completely built upon is the space between the thread of the stream and the building owned by said complainant and C. W. Jackman; that none of the said buildings have been placed in said stream by authority of the legislature, except a small building in the center of said stream on the southerly side of the said Milwaukee street bridge, where authority was given to Peter Meyers individually to maintain a meat market, said authority having been given by ch. 426 of the laws of 1852; that Peter Meyers has been dead for more than twenty years, and that a meat market has not been maintained in said building for more than twenty years last past, and that whatever rights said Peter Meyers had in and to said building or the right to maintain said building in said stream have long since ceased to exist; that buildings have been erected abutting the bridge across Rock river known as the Court street bridge and located down the stream of Rock river from the said Milwaukee street bridge; that said piers and piles have caused large amounts of sand to bank up against said piers and piles and other obstructions, and have caused bars to form in said river, so that the current of said river has been unlawfully diverted from its normal course and has been thrown by reason of the obstructions toward the easterly bank of said river and against the bank upon which is located the building owned by said complainant and C. W. Jackman, as hereinbefore stated; that there was maintained by the ancestors of said complainant upon said bank a building with foundations in the same place long prior to the building of any obstructions in the way of buildings in said river; that the maintenance of said piles, piers, walls and other obstructions interferes with navigation and constitutes an obstruction to the use of Rock river and has seriously damaged this complainant and is a constant menace to the safety of the general public and to the property rights of the owners of property on the banks of Rock river, and particularly of said complainant; that the maintenance of said piles, piers, walls, buildings and other obstructions constructed in and maintained in and over said Rock river is in violation of the provisions of ch. 69*m* of the statutes of the state of Wisconsin of 1911 (sec. 1596, ch. 652, laws of 1911), and is a public nuisance; that subsequent to the first of January, 1913, a certain portion of the buildings located on the southeasterly side of the said Milwaukee street bridge and extending from the

easterly shore of the said Rock river to approximately the center of the stream were burned; that the burning timbers, buildings, and debris fell into the said Rock river and a large portion of the stocks of goods in said buildings fell into said Rock river, so that the said Rock river was partially dammed and the natural flow of the said stream was retarded and water was forced up and into the basement of the building owned by said complainant and C. W. Jackman, as stated aforesaid, and fires in the heating apparatus in said building extinguished and said complainant and his co-owner and the tenants of said building put to considerable expense and annoyance; that all of the said buildings so erected in the city of Janesville and across Rock river are frame structures; that they are highly inflammable and that by reason of the open space under said building it is impossible to reach said buildings with a hose or to put out a fire; that in the recent fire above referred to the building of this complainant and C. W. Jackman was seriously menaced, the window glass in certain portions of the building broken by the heat, and the destruction of the building seriously threatened; that after said fire this complainant and other citizens of the city of Janesville were first aware of the nature of the obstructions in said stream and of the extent thereof; that preparations have been made, as this affiant is informed and verily believes and so charges the fact to be, to rebuild the burned portion of the buildings in said Rock river; that the piles upon which said buildings were located and the piers and other obstruction still stand and interfere with the navigability and obstruct the use of said river and constitute a menace to the safety and property rights of said complainant and other citizens of the city of Janesville owning property on the banks of said Rock river; that no effort has been made to remove any of said buildings or obstructions subsequent to the first day of January, 1913, and that all of said buildings so erected still stand in violation of ch. 69*m* of the statutes of 1911 [sec. 1596, ch. 652, laws of 1911.]

"WHEREFORE your complainant prays your honorable body to investigate the conditions as set forth in this complaint and as they now exist in the city of Janesville with reference to Rock river, and that your honorable body report the said facts and any violation of ch. 69*m* [sec. 1596, ch. 652, laws of 1911] to the HONORABLE FRANCIS E. MCGOVERN, as governor of the state of Wisconsin, for further action, and all as provided in ch. 69*m* of the laws of 1911. And for such other and further order as may be just and proper in the premises."

A petition was also filed by L. R. Treat and numerous other citizens of Janesville complaining of the obstructions constructed and maintained in and over the Rock river in the city of Janesville. This petition was deemed defective in its allegations but

because of the full statement of the facts contained in the preceding petition of C. S. Jackman was not amended and refiled.

The matter was heard at Janesville on June 25, 1913. *Ralph W. Jackman* appeared for the petitioners, *W. H. Doherty* for the city of Janesville, *Charles E. Pierce* for George G. Sutherland, and *M. G. Jeffries* and *E. F. Carpenter* in their own behalf.

It appears that the Rock river rises near the boundary line of Fond du Lac and Dodge counties, thence flows through the counties of Dodge, Jefferson and Rock in this state, thence in a southwesterly direction through the state of Illinois and empties into the Mississippi river south of Rock Island, Ill. It was meandered and returned as navigable by the United States surveyors prior to the organization of the state. It was shown that the river is used by canoes bound from the Madison lakes to the Mississippi river, and that, at certain points, notably the dams at Beloit and Janesville and south of Beloit, the river is navigated by launches and other small craft, including steamers carrying passengers. At the Indian Ford dam a railroad is provided for transporting launches around the dam. The river flows through Lake Koshkonong which is navigated by various kinds of boats. It was said that a large boat once came from the Mississippi river as far north as Janesville and that a boat was built at the mouth of what is known as the Bark river and floated down the stream.

With reference to the latter instance a witness called attention to the case of *State ex rel. Attorney-General v. Pliny Norcross,* 1907, 132 Wis. 534. The witness thus testifying stated that he had ascertained from old settlers, now deceased, that in about 1840 logs were rafted down the Rock river from the north but that the use of the river for that purpose was discontinued some time after the year 1850. A witness who was born in 1847 testified that when a boy he had assisted in floating logs down the river to Janesville from the north. He described a dock near the present Court street bridge where rafts of lumber from northern points were formerly landed.

The obstructions mentioned in the petition refer chiefly to buildings which stand within the river boundaries on piles and piers abutting the Milwaukee street bridge and the Court street bridge and the filling in for foundations on the west side of the stream in Janesville. In, or prior to, 1849 a building was erected by Peter L. Meyers for use as a meat market, south of Milwaukee

street at about the center of the stream. The legislature subsequently granted authority to Peter L. Meyers individually to maintain such building (ch. 426 of the laws of 1852). It is provided in said chapter "that said building shall not materially obstruct the flowage upon said river," also "that the said building may be kept and maintained where it now stands so long as the same shall be used as a meat market."

This building has not been used as a meat market for many years. It stood on lime stone piers which were later incased in concrete. It was destroyed by fire early in 1913 but the stone and concrete foundation still remains. The property is still a part of the Meyers estate, and Mr. H. B. Meyers testified that he contemplates the erection of another building on the same site. Adjoining the Meyers building on both sides and extending toward either shore were erected other buildings on piles. Some of these piles also were incased in concrete. Such buildings were owned by George C. Sutherland and E. B. Carpenter. The fire which destroyed the Meyers building also destroyed the buildings belonging to Mr. Carpenter and Mr. Sutherland. The debris from the fire fell into the river and backed the river up from 16 to 18 inches, and had not been removed at the time of the hearing. Both Mr. Carpenter and Mr. Sutherland declare their intention to rebuild their property.

On the northeast side of the bridge, extending from the west shore to the thread of the stream, is another building, constructed on piles, which has stood about thirty years, and which is now owned by Malcolm G. Jeffris. At the Court street bridge there are also buildings on piles on the north side of the bridge, some owned by W. B. Conrad and some constituting a part of the Michael Dawson estate.

In addition to the buildings above designated, the testimony shows that other structures, which do not now stand over the water, were originally built in part on piles and stone piers and the foundations were subsequently filled in with soil or other materials, or the original buildings on the site in question were thus constructed. The Merchants and Savings Bank at the west end of the Milwaukee street bridge was built on the site of the old Bumpsted building. The latter stood on stone piers and the water flowed beneath it, but when the existing building was erected the foundation was filled in and made solid. A concrete wall, known as the Jeffris wall, was built along the stream adjacent to

this structure. A witness who has lived in Janesville since 1847 testified that the river at one time extended to an old mill west of the present site of the Merchants and Savings Bank building. The Jackman Block, which has stood at its present site for about fifty-three years, is located northeast of the Milwaukee street bridge and the retaining wall west of the building extends to the line of the abutment of the old bridge. One of the petitioners stated that the river used to come up under the bridge abutment during periods of very high water and that it even came up and covered Main street at such times. This building is set back about eight feet from the bank of the river. The shore on the side near the Jackman Block is the same now as it has always been. The bank of the river was about where the wall is outside of the building and about eight feet from the present foundations of the block.

It appears that the following structures now extend out over a part of the river: A building of the New Doty Manufacturing Company; a platform and structure of the Thoroughgood Company; a switch of the Rockford & Interurban Railway Company; the Wilson Lane elevator shaft; and the building owned by the Commercial Club of Janesville and known as "The Rink."

It further appears that there are bridges, dams and other obstructions in the Rock river between Beloit and Watertown and that none of these bridges or dams are provided with locks, breaks or draws to make navigation possible. In the order of their location from the south to the north these bridges, dams and other obstructions are as follows: Wagon bridge in Beloit; railway bridge of the Chicago & North Western Railway Company; store buildings owned by C. B. Salmon; wagon bridge at State street in Beloit; store buildings on north side of State street bridge in Beloit; railway sidetrack bridge on the Chicago, Milwaukee & St. Paul Railway Company and the Chicago & North Western Railway Company; dam crossing the entire river, wagon bridge, railway bridge of Rockford & Interurban Railway Company; railway bridge of the Chicago, Milwaukee & St. Paul Railway Company; wagon bridge at town line; wagon bridge at Afton; railway bridge of Chicago, Milwaukee & St. Paul Railway Company; railway bridge of Chicago & North Western Railway Company; dam at Janesville; wagon bridge at Center avenue, Janesville; wagon bridge at Jackson street, Janesville; railway bridge of Rockford & Interurban Railway Company; rail-

way sidetrack bridge of Chicago & North Western Railway Company; wagon bridge at Racine street, Janesville; Court street bridge and buildings adjacent thereto at Janesville; Milwaukee street bridge and buildings adjacent thereto at Janesville; railway sidetrack bridge of Chicago, Milwaukee & St. Paul Railway Company at Janesville; Janesville power dam; wagon bridge at Fourth avenue, Janesville; railway bridge of the Chicago, Milwaukee & St. Paul Railway Company and the Chicago & North Western Railway Company; Four-mile bridge in town of Janesville; Dawson dam; Indian Ford dam; wagon bridge in town of Fulton; railway bridge of Chicago, Milwaukee & St. Paul Railway Company; Newville bridge; South Ft. Atkinson bridge; railway bridge of Chicago & North Western Railway company; wagon bridge at Ft. Atkinson and store on south side thereof owned by Mrs. Parent; railway bridge of Chicago & North Western Railway Company; wagon bridge two miles north of Ft. Atkinson; Jefferson dam; wagon bridge at depot at Jefferson; wagon bridge at street three blocks north of depot at Jefferson; dam at Watertown and railway and wagon bridges at Watertown.

In view of the facts and testimony given upon the hearing it was deemed advisable to have the engineers of the Commission make a survey of the Rock river in Janesville and take soundings at various places for the purpose of obtaining an idea of the contour of the river and the effect the obstructions in question might have in case of floods. In their report they state that the Rock river in the city of Janesville varies in width from 170 feet to 280 feet, that soundings were taken in the vicinity of the buildings north and south of the Milwaukee street bridge to determine the location of sand bars which might be caused by piles and piers in the river and to obtain an idea of the contour of the bottom of the river. The figures on the map prepared by the engineers and filed at the office of the Commission give the approximate depth in feet of the stream at the places indicated. The dash line in the river locates approximately the thread of the stream. Just south of the third arch of the Milwaukee street bridge are the remains of several concrete piers which were formerly used to support a building which was destroyed by fire previous to this investigation. On March 9, 1914, when the soundings were taken, some of the large pieces of these piers, which had been broken and tipped over, were only a few inches

below the surface of the water and were surrounded by bars of sand. Under the building south of the Milwaukee street bridge and near the west bank of the river there were several deep holes but it is believed that these were dug out at some time and that they are not the natural bottom of the river. There were no sand bars around or near the piles under this building.

On the west side, generally speaking, the river is more shallow than on the east side. The soundings were nearly all taken from a boat which was rowed up and down the river without difficulty, running aground only once just south of the building, on the west side of the building and south of the Milwaukee street bridge. In their comment upon the situation the engineers state that the practice of constructing buildings over rivers, besides obstructing navigation, is a dangerous one, especially during times of freshets, when floating logs and debris may lodge against piles and piers and raise the head of water to such a height that it will cause damage. This practice should be discouraged.

The contention of Mr. George Sutherland, one of the property owners, upon the facts disclosed is succinctly stated in the brief of his counsel as follows:

"That Rock river is not now and has not been in the city of Janesville, a navigable stream for any purpose of trade or commerce, or for the floating of logs, lumber or for any craft whatever other than small rowboats or fishing boats for more than fifty years; that the state of Wisconsin has permitted by express legislative enactment the building of the Meyers building, so called, abutting on the southerly side of said bridge, the erection of thirty-nine permanent obstructions across Rock river, to-wit: dams, wagon bridges, and railroad bridges between the southerly state line of Wisconsin and the city of Watertown, in said state, a distance of about forty miles, and that none of said obstructions are or ever have been provided with any draw, lock, gate or other device to permit the passage of any kind of water craft, and that they are a complete obstruction to any possible navigation of said river; that none of the enactments of the legislature passed within the last forty years by reason of the non-navigability of said river contain any provision in relation to any device in said bridges and dams for the convenience of navigation; that said obstructions in and of themselves, if Rock river could be navigated, would be a complete bar to the use of said river in said state for the purposes of navigation; that there are no commodities of any kind along said river for which said river can be used advantageously or at all as a navigable stream; that the country bordering on said river is strictly an agricultural country and has been for more than fifty years; that there are no log-

ging or lumbering industries in said section of the country; that there is not sufficient water in said stream ordinarily for the purpose of navigation, except in the various ponds made by the dams across said river; that the best interests of the citizens of Janesville, of the city itself and of the people of the surrounding country will be best served and promoted by the construction and maintenance of good and substantial store buildings across said Rock river abutting on said Milwaukee street bridge, that the construction and maintenance of buildings across said river abutting on said bridge as now maintained and proposed to be maintained, will not in any way injure the water power and use thereof in said river or the flow of water in said river or jeopardize the property along said river and that the construction and maintenance of said buildings will improve the value of property adjacent to said river and other property in said city of Janesville; that for more than twenty-five years last past, the property abutting on said Milwaukee street bridge in the bed of said river, has been assessed as valuable building property and taxes paid thereon by the owners thereof to the said city of Janesville in said county of Rock, said state of Wisconsin, in large sums amounting to thousands of dollars in each year, and that said property abutting on said Milwaukee street bridge was assessed in the year 1912 by the officers of the state tax commission under the provisions of the laws of Wisconsin and by them assessed as valuable business property at the rate of $175 per front foot, exclusive of the buildings thereon; that the circuit courts of Waukesha and of Rock counties in said state, and the supreme court of the state of Wisconsin, in at least seven actions wherein the state of Wisconsin, the city of Janesville, and others have been parties on one side, and each and all the owners of said property abutting on said Milwaukee street bridge in said Rock river have been parties on the other side, except said petitioners C. S. & C. W. Jackman, have in each and all of said actions determined that the owners of said lots abutting on said Milwaukee street bridge in Rock river had the right to erect and maintain buildings thereon as heretofore erected, and that each and all of said owners relying on said several judgments and recognition thereof by the officers of the state, county and city, and the assessment and collection of taxes on said lots, have expended large sums of money, to-wit: many thousands of dollars, in the purchase of said lots in said river abutting on said bridge and in the erection and maintenance of buildings thereon, and the merchants occupying said stores, have built up and become possessed of large and lucrative trades and businesses in the several buildings abutting on said bridge; that the legislature of Wisconsin in 1882 by an act entitled "An act to reduce the act incorporating the city of Janesville and the several acts amendatory thereto into one act, and to amend the same" delegated to the city of Janesville the same power over said river

within the limits of said city as said city had on the streets and highways of said city, and said city in pursuance thereof has recognized said right to build in said river, established lines on the easterly and westerly sides of said river, built and maintained six bridges across said river, and has adopted plans for rebuilding on said Milwaukee street a new cement bridge at the cost of about $38,000, and that the plans of said bridge have been approved by said Commission; that said river in said city of Janesville for more than fifty years has been abandoned by said city and by said state as a public way and for more than fifty years has ceased to be navigable in fact for any purposes whatsoever, except by light boats for fishing and pleasure; that the best and most valuable business property in said city has been erected and is located within the meandered lines of said river in said city; that in said city of Janesville there are six wagon bridges, six railroad bridges, two dams across said river, two large sewer pipes on the bed of said river and crossing the same and carrying all the sewerage from the east side of said river to the west side, and two water mains crossing said river, which would effectually prevent any navigation of said river if it contained a sufficient volume of water; that the experience of twenty-five years has determined that the water power created by the dams across said river in said city, is not in any way injured or impaired by the erection and maintenance of buildings and bridges across said river; that the power created by said dams is used for lighting the streets of the said city, stores, factories, shops and dwelling houses in said city, and for power for operating the machinery in many of the factories in said city, and for running the street cars in said city; that said river is many times more valuable for power purposes than for navigation purposes, even if it were possible to make said river navigable, and that it is wholly impracticable to use said Rock river as a navigable stream in said state of Wisconsin; that store buildings have been erected on said river abutting on bridges in the cities of Beloit, Ft. Atkinson and Watertown in said state."

The statutes involved in the matters here under investigation provide:

"Section 1596. 1. All rivers and streams which have been meandered and returned as navigable by the surveyors employed by the government of the United States and all rivers and streams, meandered or nonmeandered, which are navigable in fact for any purpose whatsoever are hereby declared navigable to the extent that no dam, bridge, or other obstruction shall be made in or over the same without the permission of the legislature; but this section shall not be construed to impair the powers granted by law to towns, counties, or cities to construct bridges over such rivers and streams. The consent of this state is here-

by given to the acquisition by the United States of all lands and appurtenances in this state which have been or may be acquired by the United States for the purpose of erecting thereon dams, abutments, locks, lockkeepers' dwellings, chutes, or other structures necessary or desirable in improving the navigation of the rivers or other waters within and on the borders of this state, and the United States may hold, use and occupy such lands and other property and exercise exclusive jurisdiction and control over the same subject to the right of this state to have civil and criminal process issued out of any of its courts executed within and upon said lands.

"2. Any dam, bridge or other obstruction constructed or maintained in or over any navigable waters of this state in violation of the provisions of this section is hereby declared to be a public nuisance, and the construction of any such dam, bridge or other obstruction may be enjoined or its maintenance abated by action at the suit of the state or any citizen thereof.

"3. Any person, firm, association of individuals, or corporation violating any of the provisions of this section after January 1, A. D. 1913, shall forfeit for each such offense, and for each day that any such dam, bridge or other obstruction is maintained or remains in or over any such waters, the sum of fifty dollars, the same to be collected in an appropriate action to be brought and prosecuted by the attorney-general or by some other duly authorized person in behalf of the state. Any forfeitures incurred prior to January 1, A. D. 1913, are hereby expressly remitted.

"4. It shall be the duty of the railroad commission to report to the governor any violation of this section, and the governor shall thereupon cause the attorney-general, or some other person duly authorized by the governor to act in his stead, to institute proceedings against the violator as provided in subsections 2 and 3 of this section."

The provisions of subsec. 1 of sec. 1596 are substantially the same as those found in sec. 1596 of the Statutes of 1898 and also in ch. 34 of the Revised Statutes of 1849. This subsection, however, as created by ch. 652, laws of 1911, to include all of the former sec. 1596, extends the definition of navigable streams to "all rivers and streams, meandered or nonmeandered, which are navigable in fact for any purpose whatsoever." Subsecs. 2 and 4 of sec. 1596 were added to the statutes in their present form by ch. 652, laws of 1911. Subsec. 3 was created by the same chapter, but amended to provide for the insertion of the date named in the subsection by ch. 17, special session laws of 1912. Subsec. 2 declares, as will be noted, that any unlawful obstruction is a public nuisance which may be enjoined at the suit of the state or of any citizen of the state.

The construction of this statute is important in its bearing upon the facts in the instant case. It is conceded that none of the structures of which complaint is made, except the original Meyers building, were placed or maintained in the river under legislative authority, but it is contended on the part of property owners that notwithstanding that fact, the structures in question are not nuisances and that they therefore cannot be removed at the instance of the state or of any private citizen. It will be observed that the statute speaks of unlawful obstructions, but does not attempt to define what constitues an unlawful obstruction. Consequently, in the absence of any judicial interpretation limiting and defining the term "unlawful obstruction", the administration of the statute is rendered difficult and uncertain. As a guide to the Commission, it is essential that some general criterion be established by which the unlawfulness of any structure in or over a navigable stream may be determined. If the illegality of every obstruction is to be determined upon its own set of facts and without any general precedent to guide property owners when encroaching on navigable streams, an interminable amount of litigation will arise and a correspondingly heavy burden will be placed upon the Commission in the investigations which it will be called upon to make of the innumerable obstructions in and over the navigable streams of the state.

The purpose of the legislature in broadening the scope of the statute, when taken in connection with the water power act in which the statute was incorporated, is well known. The protection of life and property was the primal incentive for making the statute as comprehensive as possible. This was but the result of caution occasioned by the unprecedented floods in other states which had caused great injury and damage to property located in cities, villages and places situated on the banks of streams whose waters had never before reached such heights as to cause alarm to property owners, because of obstructions in the streams and the narrowing of the channels by encroachments thereon. To prevent any such unexpected catastrophe as occurred in some of the middle western states but a short time ago the legislation in question assumed its present form.

It is clearly shown by the testimony that the Rock river, although conceded to be a navigable stream within the terms of the statute, has generally been regarded by adjoining property owners as private property in and upon which they could build such

structures and obstructions as their judgment or caprice might dictate. The fact that no injury or damage of any consequence had ever resulted from high water, and that the stream in recent years was no longer required by the lumber industry as a highway of commerce, led to the present situation, not only in Janesville, but all along the course of the river from practically its source to the point where it leaves the state and flows into Illinois.

It is exceedingly important that a judicial determination of the rights of property owners involved in this proceeding be had without unnecessary delay. Other property owners similarly situated upon this stream at other points and owners of property abutting on the various navigable streams in the state are interested in the controversy here under consideration for their rights to the use of the streams are equally in doubt. Under the circumstances we do not deem it incumbent upon us to pass upon the legality of the maintenance of the obstructions here in question. We shall content ourselves with a brief finding of the facts based upon the testimony offered at the hearing and upon the results of the independent investigation made by the Commission. The finding is as follows:

1. That Rock river in the city of Janesville is a navigable stream.

2. That the river is navigated by rowboats; motorboats and other water craft.

3. That the piers and other structures delineated upon the map hereinbefore mentioned constitute obstructions to navigation and to the natural flow of the water in the stream and have a tendency to narrow the channel of the stream.

4. That in case of very high water, logs, lumber, wood and drift coming down the stream are likely to lodge against such obstructions, preventing the free passage of the water through the natural channel and thereby causing injury and damage to property within the city of Janesville.

BROWN BROTHERS LUMBER COMPANY

vs.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY.

Decided March 26, 1914.

The petitioner asks for refund of certain charges exacted from it for the transportation of two carloads of car stakes from Rhinelander to Spur 236, on the ground that the stakes were removed from cars containing logs and were being returned to the original point of shipment of the logs and therefore should have been returned free of charge. It is the custom of railway companies to include the cost of transporting car stakes used in shipping logs in the rate assessed upon the shipment of logs and to return the stakes to the point of origin of the shipment without additional charge. The respondent is willing to make the refund asked.

Held: The charges complained of were unusual and unreasonable. Refund of the full amount paid is ordered.

The petitioner is a corporation engaged in manufacturing lumber at Rhinelander, Wis. It alleges that on April 16 and May 17, 1913, it shipped two cars of car stakes containing 34,000 and 53,900 lb., respectively, from Rhinelander, Wis., to Spur 236; that the respondent assessed charges on said shipment at the rate of 4½ cts. per 100 lb., amounting to a total of $39.56; that such stakes were removed from cars containing logs and were being returned to the original point of shipment of the logs, and therefore should have been returned free of charge; that the railway company recognized and corrected the error by issuing its tariff G. F. D. No. 17895, effective February 2, 1914, which provides that no charge shall be made for returning stakes to the shipping point. Wherefore, the petitioner prays that the railway company may be authorized to refund to it the said charge of $39.56.

The respondent railway company, answering the petition, admits the allegations thereof and expresses its willingness to make reparation if authorized to do so.

The time of hearing was waived, and the matter was submitted upon the papers, pleadings and documents on file.

In accordance with custom, railway companies return stakes used in shipping logs to the point of origin of shipment. The cost of transportation of such stakes is included in the rate assessed upon the shipment of logs. Under the circumstances the petitioner is entitled to the reparation claimed.

We find and determine that the charges exacted of the petitioner by the respondent for transporting the aforesaid two carloads of stakes from Rhinelander to Spur 236 were unusual and unreasonable, and that no charges should have been made for such services.

NOW, THEREFORE, IT IS ORDERED, That the Minneapolis, St. Paul & Sault Ste. Marie Railway Company be and the same is hereby authorized to refund to the Brown Brothers Lumber Company the sum of $39.56.

IN RE APPLICATION OF THE MILTON WATER, LIGHT AND POWER COMPANY FOR AUTHORITY TO INCREASE RATES.

Decided March 27, 1914.

The Milton W. Lt. & P. Co. applies for authority to put into effect a minimum charge of 75 cts. per month for electric current. At present the utility makes no minimum charge. Investigation of the revenues and expenses shows that the utility, which started operation March 1, 1912, is still operating under a deficit.

Held: The application is a reasonable one. The applicant is therefore authorized to put into effect a minimum monthly charge of 75 cts.

The applicant in this case, the Milton Water, Light and Power Company, is a public utility engaged in the management and operation of an electric plant in the village of Milton. The petition is dated January 9, 1914. It shows in full the schedule of rates which the utility now has in effect, none of which, however, are involved in the application. The only matter concerned in the application is a minimum charge which the utility wishes to have placed at 75 cts. per month. At present there is no minimum charge.

Hearing was set for February 17, 1914, but no appearances were made.

An inspection of the reports filed by this utility, and an examination of the records of the utility by members of the Commission's accounting staff in connection with the matter of prescribing a system of accounts for the use of the utility, shows that for the year ended June 30, 1913, the operating expenses, exclusive of any allowance for depreciation or interest, exceeded the revenues by $701.01. The utility started operation March 1, 1912, so that the report filed as of June 30, 1912, covers too short a period to be of any value in connection with this case. According to the report for the year ended June 30, 1913, the cost of the plant amounted to $10,297.44. Cash, materials and supplies, and accounts receivable amounted to something over $700.

From the foregoing facts it is clear that the authorization of a

minimum charge such as asked for the utility will not result in any unreasonable return to the utility. According to the last report filed by this company there were, on June 30, 1913, a total of 95 consumers. On June 30, 1912, there were only 36 consumers reported, so that it is evident that the business has been growing rapidly during the past year. It is probable that with such increased business as may be expected, the deficit from operation will be materially reduced, but it seems clear that for some time to come the revenues of the utility will hardly pay the operating expenses and make adequate provision for depreciation and interest.

In some cases the Commission has recommended the adoption of a minimum charge of less than 75 cts. but from a consideration of all the facts available in this case, we believe that the application for authority to put in a minimum charge of 75 cts. per month is a reasonable one. The data available do not show how many consumers would be affected by such a minimum, but it seems evident that the total increase in revenue will be rather small.

IT IS THEREFORE ORDERED, That the applicant in this case, the Milton Water, Light and Power Company, be and the same is hereby authorized to place in effect a minimum monthly charge of 75 cts. This rate may be put in effect with the bills for current used for the next monthly period succeeding the date of this order.

IN RE APPLICATION OF THE SHEBOYGAN RAILWAY AND ELECTRIC COMPANY FOR AUTHORITY TO INCREASE ITS LIGHTING CHARGES IN THE CITY OF SHEBOYGAN.

Submitted May 22, 1913. Decided March 27, 1914.

The Sheboygan Ry. & El. Co. applies for a review of the findings in the case of *City of Sheboygan v. Sheboygan Ry. & El. Co.* 1911, 6 W. R. C. R. 353, in which the Commission reduced the utility's charges for street lamps from $74 to $68 per lamp per year, and asks for the establishment of a charge upon the basis of the actual consumption of electricity as shown by the review and reinvestigation. Since the application was filed the utility has passed into the control of new owners who have announced their intention of installing new lighting equipment. This makes it unnecessary at this time to reinvestigate the lighting service rendered by the applicant.

Held: Careful reconsideration of the findings fails to reveal any reason for the review and reëstablishment of rates requested. The application is dismissed.

This case comes before the Commission in the form of a request that the Commission review its findings upon which an order was issued on February 3, 1911, in the case of *City of Sheboygan v. Sheboygan Ry. & El. Co.* 6 W. R. C. R. 353, reducing the petitioner's charges for street lamps from $74 to $68 per lamp per year, and reëstablish a price upon a basis of the actual consumption of lamps as shown by such review and reinvestigation.

A hearing was held in the city of Sheboygan on May 22, 1913. *E. R. Bowler* appeared for the petitioner company, and *Edward Voigt* for the city of Sheboygan.

In a general way at the hearing and in the petition it was claimed by the petitioner that the Commission's findings and order made effective in 1911 were based upon errors made by its engineers.

Certain changes in the lighting situation in Sheboygan have occurred since the filing of the petition under consideration which make it unnecessary at this time to reinvestigate the lighting service given by the petitioner, and a careful reconsideration of the findings fails to reveal any reason for the review and

reëstablishment of rates asked for. These changes are first a change in the ownership and control of the petitioner company, and second, the announcement by the new owners that it is their intention and desire to install new lighting equipment.

For these reasons, the request for a review of the Commission's findings and order of February 3, 1911, is dismissed.

GEORGE L. ATWOOD ET AL.

vs.

CITY OF LAKE MILLS.

Submitted March 24, 1914. Decided March 27, 1914.

The petitioners allege that the city of Lake Mills refuses to extend its water mains along Scott and Franklin sts. in Lake Mills and pray for an order requiring the city to lay mains along these streets. The refusal of the common council to order the extensions desired appears to be in deference to the wishes of a majority of the owners of property abutting on the proposed extensions. Under an ordinance adopted by the city in accordance with suggestions made by the Commission in *Weber et al. v. City of Lake Mills*, 1913, 12 W. R. C. R. 577, the abutting property owners would be compelled to bear the greater portion of the cost of the extensions through special assessments levied against the abutting property. The extensions were recommended by the Commission in the decision cited.

Held: The extensions desired by the petitioners are required to protect the public health and to improve the fire protection system. The city is ordered to make the extensions, as specified, within 90 days.

A petition dated March 13, 1914, and signed by George L. Atwood and other citizens of Lake Mills, to the number of twenty-five, was filed with the Commission, making complaint that the city was refusing to extend its water mains on Scott and Franklin streets and praying for an order requiring the city to lay a water main on said streets and furnish water service to residents along that line.

The city waiving the right of ten days notice, a hearing in the matter was held in the office of the clerk of the city of Lake Mills on March 24, 1914. *George L. Atwood* appeared for the petitioners. The city was represented by *Frank B. Fargo,* president of the city council, *E. C. Dodge,* president of the water and light commission, *N. H. Falk,* city attorney, *W. F. Jones* and *Wm. Klein,* members of the common council, *Frank Foote* and *W. F. Jones* as members of the water and light commission, and *V. S. Ravenhill,* city clerk. *A. C. DeMerit,* representing people living on Franklin and Scott streets, appeared in opposition to the petitioners.

The present case is, in a way, a direct result of the decision of the Commission in the case of *E. H. Weber et al. v. City of Lake Mills,* 1913, 12 W. R. C. R. 577, in which was presented a report from the Commission's engineering staff containing recommendations as to what seemed to be desirable and probably needed extensions and improvements in the pipe system of the Lake Mills water works. That report and the investigation underlying it were made in compliance with the expressed wishes of the city authorities. These recommendations were stated to have been based in part upon an inspection or examination of the districts directly affected by the proposed extensions but without an investigation as to the number of residents along the lines who really desired domestic water service at that time. The number and character of residences along the recommended extensions were, in most cases, such as to warrant the belief that there would probably be a number of water takers on those lines when laid, and also that the districts traversed should have fire protection. In some cases the laying of the recommended extensions would improve the general water service in certain parts of the then existing system by eliminating certain objectionable dead ends and increasing the existing fire service capacity in those localities.

Copies of the report of the Commission's engineer in the *Weber* case were sent to the parties in advance of the decision. That report contained also a suggested form of ordinance which, by the city's adoption, would meet the then existing situation as to lack of funds for making water pipe extensions that the city had from time to time been petitioned in vain to make. The city adopted an ordinance similar to the one suggested, and thereby established a definite policy relative to the making of future extensions and also the method of financing such work, which is to raise the greater portion of the cost by levying special assessments against abutting property.

Prior to the city's recent adoption of the ordinance providing for special assessments for water pipe extensions, the legality of which ordinance is not questioned, a number of petitions for water mains had been fruitlessly presented to the council. The necessary funds for such work were said not to have been available.

Both special assessments and bond issues were probably possible methods of obtaining the required funds but resort was made

to neither method and the petitioners failed to get the desired service.

The Commission's order in the *Weber* case applied to only one extension, running along Madison and Fremont streets. Pursuant to the recommendations contained in the engineer's report, the city council of Lake Mills appears to have ordered in all of the recommended extensions.

Prior to that order a notice dated February 3, 1914, was issued and published, stating that on February 17 the council would meet for the purpose of considering the ordering of water mains and sewers laid in and along certain portions of specified streets, levying assessments therefor and hearing objections thereto.

No objections appear to have been made or filed within the time limit given in the notice except perhaps one which was dated February 17, 1914, and signed A. C. DeMerit and others. Although dated on the same day as the council hearing there seems to be some doubt as to whether that petition was received during the hours fixed for the hearing or whether it was filed subsequently. This was a petition remonstrating against the laying of water mains and sewers on Scott and Franklin streets.

Owing to the receipt of that petition the council omitted the portions of the contemplated work which were on those streets and then advertised for bids on all of the other extensions. Other petitions, objecting to other portions of the contemplated work, were then filed with the city council. In reference to these subsequent petitions it was stated that the people of Lake Mills had not previously understood the force and extent of the Commission's order in the *Weber* case and supposed that the recommended extensions were ordered in, along with that prayed for by *Weber* and other petitioners in the *Weber* case, on Madison and Fremont streets, also, that in being so ordered, as they supposed, there was nothing to be gained by making objections.

The petition of Atwood and others to this Commission amounts to a prayer for the restoration of the lines on Scott and Franklin streets, which were eliminated by the council pursuant to the petition of DeMerit and others, to the list of mains to be contracted and laid. It was explained by the city attorney that the filing of the Atwood petition in this case leaves the council in doubt as to how to treat the several other petitions filed with it as objections to, and remonstrances against, the laying of some

of the others of the proposed extensions. This doubt can be cleared only by a decision of the Atwood petition.

There is an indication that some of those now objecting to the proposed extensions were formerly desirous of having the extensions made but do not want them because of the city's adoption of the plan of financing the bulk of the work by special assessments. Apparently a majority of the owners of property abutting on the proposed extensions would still be in favor of their construction if their costs could be met out of the city funds already on hand or perhaps those obtained by sale of general city or waterworks bonds, or in other ways.

There are evidently a number of parties along the several extensions, including those on Franklin and Scott streets, who are sufficiently anxious to have the work done to be willing to pay their special assessment in order to get the city water service. These parties, however, seem to be in the minority since the city's adoption of the special assessment plan of financing such work.

That the will of the majority of those directly affected should govern in a case of this kind and result in denying to some who feel the great need of a service so important as that of city water is not altogether acceptable. It is quite widely recognized that there is an element of serious danger to health in the use for drinking purposes of waters from shallow wells in thickly settled communities, such as most if not all of the private wells in Lake Mills are reported to be. Some waters that look good and taste good are dangerous to drink.

That the waters of such private wells are safe at this particular time has not been proved but were such the case such waters would still be viewed with suspicion by those who appreciate the dangers of such sources.

We learn from the records of the state board of health that the general death rate in Lake Mills was above the normal during four of the last five years for which statistics were available. These years were the years 1908 to 1912, inclusive. In 1910 and 1912 the rates were almost double the normal, or average, for the state, and more than double the average rate for cities of like size. No deaths from typhoid were reported, however, during the entire five year period. How far or to what extent the use of so many shallow wells may have been responsible for the relatively high general death rate is quite problematical.

It has been explained by the city attorney of Lake Mills that the attitude of the city council in the matter of the Atwood peti-

tion before us is strictly neutral, that their only desire is to give their people what is wanted. Their act of ordering construction of all of the recommended extensions of water mains was strictly within their legal powers, even though opposed by a majority of the property owners along the designated lines.

The council's act of eliminating from the list of extensions to be made the proposed work on Franklin and Scott streets, in deference to the petition presented to them by DeMerit and others, was an evidence of good intent to serve the interests of the majority. The majority considered by them, however, appears to have been that of a certain small group of citizens, whereas many others are either directly or indirectly concerned, at least to the extent of having an interest in improved fire protection if not in domestic service and possibly public health. So there is more involved in deciding the question before us than the mere determination of the proportion of the property owners along the Franklin and Scott streets extension who really want the work carried out, even at the expense of a special assessment.

Before ordering the construction of any such public improvements against the expressed wishes of a majority of those most directly affected, a city council or other governing body should, however, have a sound basis for such action.

Among other reasons in favor of the construction of a water main on Scott and Franklin streets is that such a main, together with a short pipe line on Washington street, would form a connection between two different lines on Main and Mulberry streets and thus enable either of those lines to help out the other in case of a fire or other unusual demand upon it. Such cross-connections at short intervals between parallel or radiating water mains are generally recognized as important, particularly from the standpoint of reliability of fire service.

When all the circumstances are considered it appears that the water mains on Scott and Franklin streets should be laid as recommended in the engineer's report presented in our former decision affecting the Lake Mills water utility, and as prayed for by the petitioners in the instant case.

NOW, THEREFORE, IT IS ORDERED, That the city of Lake Mills construct water mains on Scott street and Franklin street in said city and that the new mains be laid so as to form, with the pipe line on Washington street, a circuit between the water mains on Main and Mulberry streets.

Ninety days is deemed sufficient time within which to comply with this order.

CITY OF SHEBOYGAN

vs.

SHEBOYGAN RAILWAY AND ELECTRIC COMPANY.

Submitted March 11, 1914. Decided March 29, 1914.

The city of Sheboygan applies for a certificate of convenience and necessity to permit it to construct a municipal lighting plant, alleging that the lighting service furnished by the Sheboygan Ry. & El. Co. is inadequate. Since the application was filed the utility named has passed into the control of new owners who express a desire to at once install new equipment capable of furnishing adequate service to the city.

Held: Under the circumstances it would be unjust to the city and unfair to the new owners of the utility to permit the city to construct a new lighting plant at this time. The application is dismissed.

This case comes before the Commission in the form of an application by the city of Sheboygan for a certificate of convenience and necessity to permit it to construct a municipal lighting plant, on the ground that the respondent company, the Sheboygan Railway and Electric Company, is not furnishing the city adequate lighting service.

A hearing was held in the office of the Commission at Madison, on March 11, 1914. *Edward Voigt,* city attorney of Sheboygan, appeared for the petitioner, and *E. R. Bowler* for the respondent.

The hearing was a brief one. The attorney for the petitioner asked and was granted leave to offer in evidence the testimony in the matter of the application of the Sheboygan and Electric Company for authority to increase its rates, (1914, 14 W. R. C. R. 208) taken at a hearing at Sheboygan on May 22, 1913. Mr. Bowler for the respondent made a brief statement in the course of which he announced that since the application under consideration was filed with the Commission the Sheboygan Railway and Electric Company, the respondent, had changed owners. He further alleged that the new owners were not only able but willing to install complete new lighting equipment capable of furnishing adequate and satisfactory light to the petitioner city.

Mr. Bowler stated also that the respondent company's new president, Mr. Reiss, had addressed a communication (a copy of which he filed with the records of the case) to the common council of Sheboygan, expressing the desire of his company to install at once a new and modern lighting equipment and to meet all further reasonable demands of the petitioner for improved lighting conditions.

The attitude of the Commission toward applications made for certificates of convenience and necessity to duplicate existing plants is well known. It rests upon the recognized fact that an existing plant can be made, under proper regulation, to give the public better service and at a lower cost than can competing plants. It requires no argument at this late day to prove that competing utilities in any municipality add to the service burdens of the public rather than lessen them. In the case under consideration there are reasons for not granting the application additional to the recognition of the general principle that two competing or noncompeting utility plants are more expensive to the public than one plant.

As has already been noted, the respondent company has changed owners since the application of the petitioner was filed, and the new officers have expressed a desire to install at once a complete new lighting equipment adequate to meet the city's demand for a higher quality of service. In view of this expressed desire and until such new equipment has been installed and the service under the new conditions tested, it would be unjust to the city to burden it with the cost of a new lighting plant, as well as unfair to the new owners of the present lighting plant.

The application of the petitioner is therefore dismissed.

CARL FRONTZ

vs.

MINERAL POINT AND NORTHERN RAILWAY COMPANY.

Decided April 1, 1914.

The petitioner alleges that the rate of 2 cts. per cwt., exacted by the respondent for the transportation of a car of stone tailings from Highland Jct. to Hewetts, was unusual and exorbitant and prays for refund on the basis of a rate of 1.2 cts. which the respondent has put into effect since the shipment moved. The respondent is willing to make refund.

Held: The charge exacted was unusual and exorbitant. Refund is ordered on the basis of the rate of 1.2 cts. now in effect which would have been the reasonable charge for the service performed.

The petitioner resides near Hewetts, Wis. He alleges that on September 6, 1913, he received a car of stone tailings shipped from Highland Junction to Hewetts, Wis., and was charged therefor the rate of 2 cts. per cwt., which is the Class E rate for five miles, as provided in the respondent's distance tariff G. F. D. No. 43; that on March 25, 1914, the respondent made effective a commodity rate on stone tailings of 1.2 cts. per cwt. for distances of five miles, as per its tariff No. 48; that said rate of 2 cts. per cwt. was unusual and exorbitant, and that the reasonable rate that should have been in effect and applicable is the rate of 1.2 cts. now effective. The petitioner therefore asks that the respondent be required to refund to him the sum of $8.16, the overcharge on said shipment.

The respondent railway company admits the allegations of the petition and joins in the prayer thereof.

Notice of investigation and hearing was waived. The matter was submitted upon the papers, pleadings and documents on file.

It appears that the shipment in question weighed 102,000 lb. and that the charges paid by the petitioner were $20.40. If the charges had been assessed at the rate made effective after the shipments moved, they would have amounted to $12.24, or $8.16 less than the charges actually exacted.

From an investigation we are of the opinion that a rate of 2

cts. per cwt. is an excessive charge because of the character of the commodity moved. The class rate would be prohibitive of the movement of stone tailings. This is recognized by the respondent, and to meet future shipments it has placed in effect a commodity rate of 1.2 cts. per cwt. for distances of five miles, which affords adequate compensation for the transportation services involved.

We therefore find and determine that the charge of 2 cts. per cwt., exacted of the petitioner on the aforesaid shipment of stone tailings from Highland Junction to Hewetts, is unusual and exorbitant, and that the reasonable rate that should have been in effect and applicable to such shipments is the rate of 1.2 cts., now provided in respondent's tariff G. F. D. No. 48.

NOW, THEREFORE, IT IS ORDERED, That the respondent, the Mineral Point & Northern Railway Company, be and the same is hereby authorized and directed to refund to the petitioner, Carl Frontz, the sum of $8.16.

IN RE PROPOSED EXTENSION OF THE LINE OF THE WEST KEWAUNEE AND WESTERN TELEPHONE COMPANY IN THE TOWNS OF WEST KEWAUNEE AND MONTPELIER, KEWAUNEE COUNTY, WISCONSIN.

Submitted March 30, 1914. Decided April 1, 1914.

The West Kewaunee & Western Tel. Co. filed notice with the Commission of its intention to extend its lines in the towns of West Kewaunee and Montpelier in Kewaunee county. The Horseshoe Tel. Co. objects to the proposed extensions on the ground that they would duplicate parts of its system.

The fact that the rates of a telephone company are higher than those of a competing company is not usually sufficient reason for allowing the latter company to parallel the lines of the former company. If the rates of the former company are excessive their reduction should be secured in the usual way by complaint to the Commission.

Where two telephone lines proceed along the same road and render substantially equal service it would ordinarily be improper to permit the shorter line to be extended beyond the end of the longer line to take on subscribers in territory beyond when the longer line is ready and willing to make the same extension and can do so with much less investment and without causing any more paralleling of lines than already exists.

The contention of the West Kewaunee & Western Tel. Co. that it is not a public utility, for the reason that all its subscribers are stockholders, cannot be granted in view of the fact that the company uses the highways of the state for its pole and wire lines and the further fact that the company apparently holds itself out as giving a public telephone service as distinguished from a purely private service.

Held: Public convenience and necessity do not require either of the extensions proposed by the West Kewaunee & Western Tel. Co. The short paralleling of the Horseshoe Tel. Co's line necessary to permit the West Kewaunee & Western Tel. Co. to extend its service to the cheese factory of its president will not, however, be prohibited, inasmuch as the Horseshoe Tel. Co. does not oppose this extension.

On March 12, 1914, the West Kewaunee & Western Telephone Company filed with this Commission a notice of a proposed extension of its line in the towns of West Kewaunee and Montpelier, Kewaunee county, Wis. Objection to the extension was made by the Horseshoe Telephone Company, a corporation operating telephone lines for local service in the towns in question, and the matter was accordingly set for hearing.

At the hearing, which was held at Kewaunee on March 30,

1914, the West Kewaunee & Western Telephone Company was represented by *George W. Wing,* and the Horseshoe Telephone Company by *L. W. Bruemmer.*

The West Kewaunee & Western Telephone Company's line runs out of the city of Kewaunee in a westerly direction through the town of West Kewaunee and the Horseshoe line runs out of the city in the same general direction about two miles further to the south. The Horseshoe line has a branch running north, however, to the road on which the West Kewaunee line is located and continuing out on that road something over a mile and a half beyond the present terminus of the West Kewaunee line. One of the extensions which the West Kewaunee company proposes is to proceed from its present terminus along the same highway with the Horseshoe Telephone Company to a point beyond the end of the Horseshoe line, a total distance of something over two miles. In making this extension the West Kewaunee company would pass one or more of the present subscribers of the Horseshoe line. Within the first mile of this proposed extension the West Kewaunee company desires to take on as a subscriber the cheese factory recently purchased by the president of the West Kewaunee company, and this westerly extension, as far as the cheese factory, is not opposed by the Horseshoe Telephone Company. That company does, however, oppose the continuance of the extension toward the west, paralleling the Horseshoe line and running past the end of that line; the ground of objection being that the Horseshoe company already has lines further along the same road than the West Kewaunee company's present lines and that if either company is to continue along the road to reach prospective subscribers to the west, it should be the company which is already nearest those subscribers and which could reach them without any paralleling of lines.

In addition to the westerly extension proposed by the West Kewaunee company, that company intends to run its line south from the cheese factory to the residence of John Hlinek, a distance of about half a mile. This residence is on the same road that the Horseshoe Telephone Company uses for its north and south line, and since the Horseshoe company's line runs past Mr. Hlinek's house it was the contention of that company that Mr. Hlinek could be properly served by the Horseshoe Telephone Company without any paralleling of lines.

As to the services performed by the two companies and the fa-

cilities for connection between them, there seems to be nothing to warrant any paralleling of lines. Both companies have their switching done by the Wisconsin Telephone Company at Kewaunee; subscribers on each line can reach those on the other line through the Kewaunee switchboard without extra charge. There is nothing to indicate that the service of the West Kewaunee company is in any way superior to that of the Horseshoe Telephone Company. The only reason that appeared at the hearing for the extension of the West Kewaunee company to subscribers already within easy reach of the Horseshoe line was the difference between the rates of the two companies. It seems that the Horseshoe Telephone Company charges rates varying with the distance of subscribers from the central office, but that its rates for subscribers in the vicinity of Mr. Hlinek will be $11.35 per annum. The West Kewaunee & Western Telephone Company does not have any regular system of rates, but all the subscribers, who are also stockholders in the company, pay $3 each per year to the Wisconsin Telephone Company for switching service and then pay the West Kewaunee company whatever amount may be necessary for repair and maintenance of lines during the year. Although definite figures were not given at the hearing regarding the total cost of a West Kewaunee telephone for a year, it appears likely that this cost does not greatly exceed $5 per annum. The Horseshoe Telephone Company, however, sets aside an annual sum for depreciation and also pays 6 per cent dividend to its stockholders.

Although the question of rates is not at issue in this case, it could hardly be contended that the rate of $11.35 charged by the Horseshoe Telephone Company is greatly excessive. Furthermore, if it were excessive, the way to bring about relief would be to complain to this Commission and have the rate reduced. In addition, it appears that the Horseshoe Telephone Company is complying with this Commission's requirement in the matter of accounting for depreciation and is paying a dividend which certainly does not represent an excessive return on the company's investment. As far as rates are concerned, therefore, there seems to be no reason for penalizing the Horseshoe Telephone Company for its higher rates by allowing a competing company to parallel its lines.

As far as the extension of Mr. Hlinek's residence is concerned, it is very clear that public convenience and necessity do not re-

quire it, since another telephone company is running its lines past the house and is ready to give Mr. Hlinek service quite similar to that of the West Kewaunee company at rates which do not appear to be unreasonable. No reason which this Commission can consider valid has been advanced for the paralleling to Mr. Hlinek's residence.

As to the extension west beyond the present terminus of the Horseshoe Telephone Company's line to prospective subscribers in the town of Montpelier, the evidence shows that the Horseshoe Telephone Company is over a mile nearer these subscribers than is the West Kewaunee company. Furthermore, the proposed extension would result in paralleling the Horseshoe line for a considerable distance. It might, in the course of time, result in the transfer of subscribers from the Horseshoe line to the West Kewaunee line in such a way as to impair the investment of the former company along this road. It is our opinion that where two lines proceed along the same road as in this case and are giving substantially equal service, but one line extends considerably further than the other, it would ordinarily be improper to permit the shorter line to be extended beyond the end of the longer line to take on subscribers in territory beyond, when the longer line is ready and willing to make the same extension and can do so with much less investment and without causing any more paralleling of lines than already exists. The situation might be somewhat different if there were not perfectly free interchange of connection between the two companies through the Kewaunee exchange.

Mention was made at the hearing of the fact that the Horseshoe Telephone Company during the fall of 1913 made two short extensions in the region in question without taking the steps required by law. The making of these extensions was admitted by the Horseshoe Telephone Company and ignorance of the meaning of the law was given as the company's excuse. One of these extensions was made along the east and west road involved in this case and consisted of about four poles. In other words, if this unlawful extension had not been made, the westward line of the Horseshoe Telephone Company would have been about four poles shorter than it is at present, but it would still have extended fully a mile beyond the terminus of the West Kewaunee line. Thus, even if the existence of this short extension were disregarded, the result of the present case would not be affected.

However, we desire to impress it firmly upon the officers of the Horseshoe Telephone Company that extensions of the kind just referred to are not permissible under the law unless the proper procedure has been followed. In the case in question, it appears from the evidence that the extensions were of a kind that would have been permitted by this Commission since they involve no paralleling of lines, but that is no reason for disregarding the law. The circular letter sent out by this Commission on August 4, 1913, a copy of which was received and acknowledged by the Horseshoe Telephone Company, explains fully what the law meant, and this Commission is not inclined to pass without comment such violations of the law as were made by the Horseshoe Telephone Company. In view of the fact that the extensions were apparently of a kind which would have been permitted had the proper procedure been taken, no further action will be taken in this particular matter by the Commission, but it is to be expected that no further violations of the statute will occur in the case of the Horseshoe Telephone Company.

The contention was made by the attorney for the West Kewaunee & Western Telephone Company at the hearing that that company was not a public utility, since it merely consists of a band of farmers who have organized a telephone corporation for their own convenience. All the subscribers are stockholders, and all who desire to have the telephone service of the company are required under its rules to buy stock. The fact remains, however, that the company uses the highways of the state for its pole and wire lines and it could hardly be heard to say that it uses those highways for a purely private purpose. If it is operating for such a public purpose as will justify its use of the highways, it must be conveying telephone messages "to or for the public" as contemplated by the Public Utilities Law. Furthermore, it is by no means clear that, entirely aside from the matter of use of the highways, the company is not serving the public regardless of the fact that it requires all its subscribers to be stockholders. The fact that the company desires to extend its lines to take on several new subscribers seem to be an indication that it holds itself out as a purveyor of telephone service. The further fact that it is connected at Kewaunee with a public telephone exchange through which its subscribers reach and are reached by several hundred subscribers of the Wisconsin Telephone Company and of various farm line companies indicates also that the

West Kewaunee & Western Telephone Company is giving a public telephone service as distinguished from a purely private service.

For the reasons stated, it is the opinion of the Commission that public convenience and necessity do not require either of the extensions proposed by the West Kewaunee & Western Telephone Company. The westerly extension as far as the cheese factory is not opposed by the Horseshoe Telephone Company, and therefore its construction will not be prohibited, although a short paralleling of the lines will be involved. The evidence shows that the president of the West Kewaunee company recently purchased the cheese factory and desires to connect it with the line in which he is interested, and since the Horseshoe Telephone Company has extended him the courtesy of withholding its objection to this portion of the line, the Commission will not stand in the way of his obtaining the service he desires.

We therefore find and determine that public convenience and necessity do not require the extension of the lines of the West Kewaunee & Western Telephone Company as proposed by said company in its notice filed with this Commission March 12, 1914, as far as such proposed extensions are projected west and south from the cheese factory of Charles Baumeister on the line between the towns of West Kewaunee and Montpelier, Kewaunee county, Wis.

H. W. SELLE & COMPANY

vs.

CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY COMPANY,
CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Decided April 4, 1914.

The petitioner alleges that it was charged a rate of 13.5 cts. per cwt., subject to a minimum weight of 22,800 lb., for the transportation of a carload of excelsior weighing 21,736 lb. from Rice Lake to Ft. Atkinson and asks that the respondents be authorized and directed to make refund on the basis of a rate of 11.5 cts., subject to a minimum weight of 20,000 lb., which is the rate now in effect between the points named. It appears that the 11.5 ct. rate should have applied to Ft. Atkinson at the time the shipment moved, but that it was, through error, omitted from the tariff. The respondents are willing to make refund.

Held: The charge complained of was unusual. Refund is ordered on the basis of the 11.5 ct. rate which would have been the reasonable charge for the service performed.

The petitioner is a corporation located at Chicago, Ill. It alleges that on April 10, 1913, the Rice Lake Excelsior Company shipped a carload of excelsior weighing 21,736 lb. from Rice Lake to the Northwestern Manufacturing Company at Fort Atkinson, Wis., for and on account of the petitioner who was the owner of the shipment; that the petitioner was obliged to pay a rate of 13.5 cts. per cwt. on said shipment, subject to a minimum weight of 22,800 lb.; that the total charges on the shipment amounted to $30.78; that there was in effect at the time of the movement of the shipment a rate of 11.5 cts. per cwt. from Rice Lake to Jefferson Junction and Janesville, minimum weight 20,000 lb., as is shown in item No. 2010 of W. H. Hosmer's I. C. C. A–244, effective February 1, 1912; that in item No. 2080–A of supplement 4 to W. H. Hosmer's tariff 5–F, I. C. C. A–422, there was established a rate of 11.5 cts. per cwt. on excelsior, carloads, minimum weight 20,000 lb., from Rice Lake, Wis., to Fort Atkinson, Wis., thus placing Fort Atkinson on the same rate basis as Jef-

ferson Junction and Janesville; that if the last named rate had been effective at the time the shipment in question moved, the charges exacted of the petitioner would have been $25, or $5.78 less than the petitioner was required to pay. The petitioner therefore requests that the respondent railway companies be authorized and directed to refund to it the said sum of $5.78.

The respondent railway companies, answering the petition, admit all the allegations thereof and submit the claim to the decision of the Commission.

The hearing was waived and the matter submitted upon the papers, pleadings and documents on file.

Evidently, due to an oversight, Fort Atkinson was omitted from the tariff which became effective February 1, 1912, establishing a rate of 11.5 cts. per cwt. on carload shipments from Rice Lake to Jefferson Junction and Janesville. To correct such an error a supplement was issued and made effective December 1, 1913, several months after the shipment in question moved.

Under the circumstances we find and determine that the rate of 13.5 cts. per cwt., exacted of the petitioner in the aforesaid shipment of excelsior from Rice Lake to Fort Atkinson, is unusual and that the reasonable and proper rate that should have been in effect and applicable to such shipment is the rate of 11.5 cts. per cwt. now effective.

NOW, THEREFORE, IT IS ORDERED, That the above named respondents, the Chicago, St. Paul, Minneapolis & Omaha Railway Company and the Chicago & North Western Railway Company, be and the same are hereby authorized and directed to refund to the petitioner, H. W. Selle & Company, the aforesaid overcharge of $5.78.

J. C. HOOD ET AL.

vs.

MONROE ELECTRIC COMPANY.

Submitted May 1, 1913. Decided April 6, 1914.

The complainants allege that certain of the respondent's charges for electric current in the city of Monroe are excessive. A valuation was made and the revenues and expenses were investigated. The expenses were apportioned between capacity and output and further apportioned among commercial lighting, commercial power and municipal lighting expenses.

Held: The respondent's rates require revision. The respondent is ordered to put into effect for commercial light and power service a schedule of rates prescribed by the Commission.

The complaint in this case was made by J. C. Hood et al., January 25, 1913, against the Monroe Electric Company. It shows that the respondent is a public utility, engaged in the business of furnishing electric light and power in the city of Monroe and alleges, among other things, that certain charges of the respondent are "unreasonable, excessive, exorbitant and unlawful."

Hearing was held May 1, 1913, at the office of the Commission in Madison. Appearances were entered as follows: *J. C. Hood* for the complainants, *R. F. Garretson* and *H. A. Smith* for the respondent.

The complainants raised objections to certain items of the valuation and also endeavored to show wherein the company had made discriminations between its customers. The respondent claimed that the business had not been as prosperous as the former owner supposed, that the operating expenses have kept pace with the growth of revenues and that the valuations by the Commission do not show as much growth of physical property as actually took place. The claims of the complainants and the respondent will be discussed more fully further on.

Rates Now in Effect.

The rates now in effect, as filed with the Commission, are as follows:

Commercial Lighting.

Meter Rates:
Minimum monthly bill, $1.00

Residences:		
1st 20 kw-hr.	15	cts. per kw-hr.
20 to 24 "	$3.00	
24 " 39 "	12½	cts. per kw-hr.
39 " 48 "	$4.80	
48 kw-hr. and over	10	cts. per kw-hr.
Business places:		
Less than fifty 16 c. p. lamps installed.		
1st 50 kw-hr.	10	cts. per kw-hr.
All over	6	" "
More than fifty 16 c. p. lamps installed.		
1st 100 kw-hr	10	cts. per kw-hr.
All over	6	" "
Saloon and residence lights combined		
Up to 60 kw-hr	10	cts. per kw-hr.
Balance	6	" "

Power and Light.

Business and residence combined		
Up to 25 kw-hr	10	cts. per kw-hr.
Balance	5	" "

Light and Heat.

Business and residence combined		
Up to 25 kw-hr	10	cts. per kw-hr.
Balance	6	" "
Business only		
Up to 10 kw-hr	10	cts. per kw-hr.
Balance	6	" "

Heating and Cooking.

All use	6	cts. per kw-hr.

Flat rates: 16 c. p. incandescent lamps.... 50 cts. per lamp per month

Commercial Power.

Minimum monthly charge, 50 cts. per h. p. installed.
All power, 5 cts. per kw-hr.

Bills amounting to $20	5%	discount
" " 40	10%	"
" " 60	15%	"
" " 80	20%	"
" " 100 and over	25%	"

Street Lighting.

4 ampere, a. c. series open arcs burning about 1,450 hours per annum on a moonlight schedule from dusk to 12:30 a. m., rate $65 per lamp per year.

100 watt, 4 ampere a. c. series tungsten lamps, same burning schedule as the arcs, rate $18 per lamp per year.
100 watt, 4 ampere a. c. series tungsten lamps, burning about 4,000 hours per annum on an all night every night schedule, rate $24 per lamp per year.

Rate not filed.

A charge of 25 cts. per month is made for the rental of four-light clusters installed complete and maintained by the company, including the tungsten lamp renewals of any size desired.

VALUATION.

The company in question was reörganized under its present name in December 1909. The outstanding securities after reorganization were $65,100 and were offset by property and plant account of an equal amount. The Commission's valuation as of November 11, 1909, shows that the cost of reproduction of the physical property was about $64,000, and the present value about $56,000. A second valuation as of January 1, 1913, was prepared by the Commission. Summary of this follows in Table I:

TABLE I.
VALUATION OF PHYSICAL PROPERTY.
As of January 1, 1913.

	Cost new.	Present value.
A. Land	$4 000	$4,000
B Transmission and distribution	27,133	20,242
C. Buildings and miscellaneous structures	7,223	5,670
D. Plant equipment	21,623	16,969
E. General equipment	602	381
Total	$60,581	$47,262
Add 12 per cent (see note below)	7,269	5,671
Total	$67,850	$52,933
F. Paving		
Total	$67,850	$52,933
H. Material and supplies	5,238	5,168
Total	$73,088	58,101

NOTE:—Addition of 12 per cent to cover engineering, superintendence, interest during construction, contingencies, etc.

The complainants claim that the item, "Material and supplies," amounting to $5,238, is too high and that the company should not be allowed to earn on the excessive portion of this value. This matter will be discussed later under the head of allowable interest.

Testimony was introduced showing that there is included in the valuation an item amounting to $588 for clusters of lamps

which are furnished to customers at an extra charge or rental. This item will, therefore, be deducted from the valuation in figuring interest and depreciation allowance for the regular supply of current and will be considered separately in determining a proper rental to be charged for use of the clusters of lamps.

Operating Expenses.

The following table shows the company's income accounts as taken from reports to this Commission for the period of two and a half years ending June 30, 1913:

TABLE II.

COMPARATIVE ANNUAL INCOME ACCOUNTS.

	Six months ending June 30, '10	Year ending June 30, '11.	Year ending June 30, '12.
REVENUES:			
Commercial lighting	$6,748	$15,934	$17,181
Municipal contract lighting	2,363	4,952	4,818
Commercial power	1,546	3,568	4,029
Total operating revenues	$10,657	$24,454	$26,028
Non-operating revenues	316	856	265
Total revenues	$10,973	$25,310	$26,293
EXPENSES:			
Power	$3,639	$8,341	$8,894
Distribution	108	451	414
Consumption	64	289	407
Commercial	138	231	328
General	2,542	5,411	5,531
Undistributed	182	283	103
Total foregoing	$6,673	$15,006	$15,677
Depreciation	750	1,950	2,400
Taxes	204	401	460
Total operating expenses	$7,627	$17,357	$18,537
Gross income	3,346	7,953	7,756
Interest	1,215	2,619	2,681
Dividends	.....	4,183	4,800
Surplus	2,131	1,151	275
Surplus beginning of period	0	2,131	3,282
Surplus end of period	2,131	3,282	3,557

It should be noted in the foregoing accounts, the figures for depreciation represent the actual charges made by the company and not the proper amount of depreciation accrued during each period; and that, in a like manner, the items of interest represent actual interest payments on funded indebtedness and not allowable interest and profits on investment.

The expenses shown in Table II have been reduced to units per kilowatt-hour output at the switchboard and are compared in this form in Table III with the normal expenses of other utilities of about the same size:

TABLE III.

COMPARISON OF UNIT OPERATING EXPENSES.

CENTS PER SWITCHBOARD KILOWATT-HOUR.

	Six months ending June 30, 1910.	Year ending June 30, 1911.	Year ending June 30, 1912.	Normal costs.
Power	2.87 cts.	2.55 cts.	2.54 cts.	2.49 cts.
Distribution	.52	.47	.43	.35
Consumption	.05	.08	.11	.14
Commercial	.10	.07	.09	.12
General	1.19	1.03	1.00	.55
Undistributed	.13	.08	.03	.15
Total foregoing	4.86 cts.	4.28 cts.	4.20 cts.	3.80 cts.

The current lost and unaccounted for during the first six months' period was reported to be 14.4 per cent of the current generated during that time. For the year ending June 30, 1911, the lost and unaccounted for current was said to be 24.0 per cent and the following year, 24.5 per cent. It is, therefore, probable that the generation in the half year referred to is understated by about 10 per cent. If this be true, the costs in column 1, Table III, would be reduced in like proportion, and the unit costs would be very nearly constant for the several periods covered by the statement. It seems, therefore, that the expenses for the year ending June 30, 1912, furnish a proper basis on which to predicate the rates. In determining the foregoing unit costs, $1,800 for superintendence, included in general expenses in the income account, has been divided between power and distribution expenses, $600 for the former and $1,200 for the latter.

Examination shows that the payroll of the Monroe Electric Company is rather high. This is largely on account of what is paid for executive officers' salaries and superintendence in addition to the other regular labor needed to operate the utility. There seems to be very little doubt that a part of executive officers' salaries should be considered in this instance as a part of the profits of the business. In other words, liberal expenditure for salaries which may be the means of obtaining efficient operation must be considered as at least part of the premium allowable for the efficiency obtained. It makes little difference to the cus-

tomers in what manner the profits of a company are divided, and for the purposes of determining the total allowable revenue, it may be borne in mind that a portion of profits has already entered into the costs in the manner explained. The propriety of the payment of this item, therefore, will not be seriously questioned here. This point will be referred to again under "return on investment."

General expenses are high, even with salary for superintendence deducted and distributed among other accounts. This is due partly to the fact that other items, properly chargeable to undistributed expense, have been included in general expense, but chiefly to executive officers' salaries, amounting to $1,800, and certain unusually large miscellaneous expenses such as office rent and traveling expenses.

Cost of Service.

The expenses for the year ending June 30, 1912, are used herein as the basis for finding the cost of the several classes of service. Table IV shows these expenses, including taxes, depreciation, interests and profits, divided into two groups, capacity and output costs. The capacity costs include those expenses or portions of expenses which are proportional or closely related to the capacity of the plant or the demands of the business, while the output costs include those related to the volume of business. This apportionment is preliminary to the division of cost among the several classes of service.

TABLE IV.
CAPACITY AND OUTPUT EXPENSES.
Year Ending June 30, 1912.

Item.	Total.	Capacity	Output.
Power	$9,495	$4,253	$5,242
Distribution	1,614	1,207	407
Consumption	407	294	113
Total above	$11,516	$5,754	$5,762
Commercial	328	164	164
General	3,731	1,865	1,866
Undistributed	103	51	52
Total foregoing	$15,678	$7,834	$7,844
Taxes	460	230	230
Depreciation	3,420	1,710	1,710
Interest and profits	4,400	2,200	2,200
Total cost of service	$23,958	$11,974	$11,984

The taxes shown above are those actually paid by the utility. Depreciation has been figured on the cost new and life of the property in question and the sum arrived at appears to be ample to provide for the replacement of the property. In reaching a conclusion concerning what should be allowed for interest and profits, the facts presented relative to the amount of the respondent's stock of material and supplies have been considered. It was found that not all of the material and supplies which entered into the valuation of the plant are devoted to the supply of utility service but that an important part thereof is used for merchandise and private construction purposes related to the electrical business. But upon examination of the respondent's income account it is found also that the non-operating revenues amounted to $265. This sum is equivalent to a net earning of 7.25 per cent on material and supplies amounting to $3,650 and affords a justification for this investment. However, in determining the cost of utility service, this value of material may be subtracted from the total value of the property if the corresponding net revenue also be not considered. The balance of material and supplies amounts to $1,518, which brings the total present value of the property, including something over $1,000 for additional working capital, to about $55,000. Although securities having a par value equal to the Commission's valuation of 1909 were issued in taking over the property at that time, the amount realized on the securities was probably not far from the present value of the property.

It is claimed by the respondent that examination of the Commission's two valuations and the account of construction since 1909 reveals that a shrinkage in value of the property apparently took place. In other words, about $4,900 of new construction can not be accounted for by a corresponding increase in the cost to reproduce the property new. It is not unreasonable to suppose that this circumstance was caused partly by renewal or changes in the system which did not add to the cost of reproduction and partly by shrinkage in unit prices. Taking into consideration the total amount of renewals, the total theoretical depreciation accrued and the increase, according to the two valuations, in unrenewed depreciation there is yet about $2,500 of renewals not reflected by an increased present value. It is for this alleged shrinkage during three years that the respondent asked to be allowed an additional amount for depreciation.

However, let us see what may actually occur when large expenditures are made for renewals. The equipment, whose replacement is imminent, is valued by physical appraisal methods and goes into the inventory at its minimum service value. Its value, insofar as the physical appraisal is concerned, remains at a point above the residual or scrap value until renewal transpires. Hence, the present value of the property as a whole is apparently higher than it would be were such equipment considered valueless. It is clear, then, that in such cases the utility has the benefit of a high present value before the replacement is made instead of suffering a shrinkage afterward.

The accounts of the utility have been reported to the Commission since January 1, 1910. From that date until June 30, 1913, $8,100 has been credited to the depreciation reserve account while during the same period the charges to this account amounted to only $1,718.33 or 21.2 per cent of the amount provided. The amount charged to the reserve is not a great deal and were this all that had been spent for the renewal of equipment during the period one would expect a considerable reduction in the present value of the property. But considering the time elapsed and the extent of replacement claimed, it appears that a rather large part of the expense of renewal has gone into maintenance or construction accounts, which should have been charged to the depreciation reserve. In accounting for these transactions, it appears also that the practice has been pursued of deducting from the plant account the present value rather than the cost of reproduction of equipment replaced. Such facts, therefore, as well as those which tend to show that unforeseen expenses have been experienced, must be taken into consideration in concluding what should be allowed in this case for interest and profits. It appears to us that the operating expenses, depreciation, interest and profits, although less than the present gross revenues, have been figured on a basis sufficiently liberal to the investor.

The following table shows an apportionment of cost of service among commercial lighting, commercial power and municipal street lighting. Present revenues are also shown.

TABLE V.

APPORTIONMENT OF COST OF SERVICE.

Class.	Capacity cost.	Output cost.	Total cost of service.	Revenues for year ending June 30, 1912.
Commercial light	$8,157	$7,495	$15,652	$17,181
Commercial power	1,923	2,931	4,854	4,029
Municipal light	1,894	1,558	3,452	4,818
Total	$11,974	$11,984	$23,958	$26,028

The foregoing is the summary of a detailed apportionment of expenses, in which the separate items of expense were divided on what seemed the logical basis in each case, taking into consideration the estimated demands of each class, the generation necessary to meet the sales recorded, the connected load, number of consumers, wire-miles and other available information. Fixed charges were allotted on the basis of the investment required by each class of service.

Cost of Service per Unit and Proposed Rates.

Commercial Lighting.

The rated capacity of the connected lighting load is 540 kilowatts. If it is assumed that 55 per cent of this is active, it is found that the capacity cost, amounting to $8,157, is equivalent to 7.45 cts. per active kilowatt per day. To this must be added the output cost amounting to $7,495 or 4.86 cts. per kw-hr. sold, which makes the total cost for the first hour's use of the active load 12.31 cts. per kw-hr. and the average cost of all lighting current sold, 10.2 cts. per kw-hr. But the cost per kilowatt-hour falls below these figures when the load is used longer, as may be seen by means of the following table of decreasing costs:

TABLE VI.

DECREASING COSTS FOR COMMERCIAL LIGHTING.

Cents Per Kilowatt-Hour.

Hours daily use of active load.	Capacity cost.	Output cost.	Combined total cost.
1	7.45 cts.	4.86 cts.	12.31 cts.
2	3.72	"	8.58
3	2.48	"	7.34
4	1.86	"	6.72
5	1.49	"	6.35
6	1.24	"	6.10

Although the complaint in this case does not directly involve the charges for current used for lighting business places, it is apparent that adjustment of rates for one class of service may require also a revision of the charges for a closely related class. Table VI shows the cost of service per unit for combined residence and business lighting and shows that if some reduction is to be made in the maximum rate for residence service some increase must be made in the maximum rate for business lighting which is now 10 cts. per kw-hr. It appears advisable to now put the maximum charges on the same basis. In view of what analysis of the facts in this case discloses, it is believed that the rate for residence and business service should be 12 cts. per kw-hr. for the first 30 kw-hr. per month per active kilowatt connected; plus 9 cts. per kw-hr. for the next 60 kw-hr. per active kilowatt connected; plus 4 cts., per kw-hr. for all use in excess of 90 kw-hr. per active kilowatt connected. Whether this schedule would increase or decrease the bill in individual cases depends upon the length of time consumers use their equipment, but the total net result of the change is a reduction as will be shown further on.

The present flat rate of 50 cts. per lamp per month is equivalent to a charge of 5½ hours' use daily at the above rate. As many of the flat rate lamps are used in such places as halls, for all night service, the charge of 50 cts. per lamp per month is not deemed excessive in this case.

Complaint was made at the hearing concerning the rental charge of 25 cts. per month for fixtures containing clusters of four tungsten lamps. The original installation of these fixtures is made without cost to the user and the utility furnishes maintenance thereof and renewal of tungsten lamps used therein for the monthly charge stated above. From a study of the company's record of lamp renewals and other data on the life of tungsten lamps, it appears that about 12 cts. per month per fixture is required for lamp renewals. Taxes, depreciation and interest amount to about 6 cts. per month. This leaves 7 cts. per cluster, which may be devoted to such other expenses as repairs and inspection. It is the company's desire that the fixtures in question eventually become the property of the users. There would probably be no objection to the existing charge of 25 cts. per month if it were assumed that it also amortizes the investment and makes the fixtures the property of the customers at the end of 5 years. On this basis, the charge will be permitted to stand.

The probable revenue for current for residence and business lighting under the proposed schedule of meter rates is shown in Table VII:

TABLE VII.

ESTIMATE OF COMMERCIAL LIGHTING REVENUES UNDER PROPOSED METER RATE.

Basis for charge.	Per cent.	Kw-hr.	Rate.	Estimated revenues.
Primary energy	50	77,133	12 cts.	$9,256
Secondary "	37	57,000	9 "	5,130
Excess "	13	20,000	4 "	800
Total.....	100	154,133		$15,186

The foregoing estimate of revenue from the sale of commercial current is $15,186. In some instances the revenue provided by the minimum monthly charge would be greater than the amount estimated in accordance with the actual energy used. For this reason, the estimate in Table VII should be increased to some extent. It is believed that $205 per annum just about covers the amount that would be added on this account. The earning from the rental of sixty-five fixtures for clusters of lamps amounts to $195 per year. Revenue from flat rate lamps was $414 for the year ending June 30, 1912. For that year, then, the total revenues from the sale of commercial lighting current would probably have been very close to $16,000.

Commercial Power.

By referring back to Table V, it may be seen that the total cost of current for power purposes amounted to $4,854 and that, as the annual sales for this class of service were 90,277 kw-hr., the average cost was 5.5 cts. per kw-hr. The earnings from power during the year ending June 30, 1912, were $4,029. They were therefore exceeded by the expenses which have been allotted to this division of the business.

The capacity portion of the cost was $1,923. The active capacity of the consumers' motors and other power equipment was 162.6 kw. The capacity cost was therefore $11.80 per active kilowatt per year or 3.24 cts. per day. This, then, is the fixed cost for each active kilowatt of power load and to it must be added the variable or output cost in order to ascertain the total

expense per kilowatt-hour. The output cost was $2,931, which, divided by 90,277, the number of kilowatt-hours sold for commercial power, is 3.25 cts. per kw-hr. Hence, the total cost for one hour's use of the load is 6.49 cts. per kw-hr.

The following table shows how the cost of service decreases as the length of use increases. This reduction in cost is due to the fact that the capacity cost per kilowatt-hour decreases as the length of use increases.

TABLE VIII.

DECREASING COSTS FOR COMMERCIAL POWER.

Cents per Kilowatt-Hour.

Hours daily use of active load.	Capacity cost.	Output cost.	Total cost.
0.5	6.48 cts	3.25 cts.	9.73 cts.
1.0	3.24	"	6.49
1.5	2.16	"	5.40
2.0	1.62	"	4.87
3.0	1.08	"	4.33
4.0	0.81	"	4.06
5.0	0.65	"	3.90
6.0	0.54	"	3.79
7.0	0.46	"	3.71
8.0	0.40	"	3.65

A schedule of rates that would conform very closely with the variations of cost represented in Table VIII may be stated in different ways.

We may have a schedule with a fixed or service charge that the consumer would pay each month. This service charge would be graduated with the size of the installation. In this particular case, it was found that the fixed or capacity costs, amounting to $1,923, are equivalent to 73 cts. per active horse power per month. So it appears that the monthly service charge should be about 70 cts. per active horse power. The consumer would also pay an additional amount varying with the quantity of current consumed. For illustration, it is suggested that the energy charge be 3 cts. per kw-hr. for the first 70 kw-hr. consumed per month per active horse power, plus 2 cts. per kw-hr. for all additional current. The variation in the charges to consumers will be disclosed later in Table IX and the estimate of revenue in Table X.

Or, instead of such a schedule, the rate may be an energy charge graduated with the average length of use to which con-

sumers put their equipment. A schedule of this kind would be similar in form to the schedule already suggested for lighting. The charge per kilowatt-hour under this schedule for power will not be suggested at this point but the effect of several combinations of rates will be shown in Tables IX and X. The primary rate will apply to the first 15 kw-hr. consumed per month per kilowatt of active load, the secondary rate to the next 30 kw-hr. and the excess rate to all use in excess of 45 kw-hr. per month per kilowatt of active load.

TABLE IX.

COMPARISON OF DECREASING COST OF SERVICE AND DECREASING CHARGE TO CONSUMERS FOR VARIOUS SCHEDULES FOR POWER.

Average time active load is used daily Hours.	*Basis A.* Cost. See table VIII.	*Basis B.* Service chg. of 70 cts. per active h. p. per mo. Energy chg. primary, 3 cts., excess 2 cts.	*Basis C.* Primary, 8.0 cts., secondary, 4.0 cts., excess, 2.0 cts.	*Basis D.* Primary, 7.0 cts., secondary, 5.0 cts., excess, 2.5 cts.	*Basis E.* Primary, 7.5 cts. secondary, 5.0 cts , excess, 2.0 cts.	*Basis F.* Primary, 7.5 cts.. secondary, 5.0 cts., excess, 2.0 cts.
0.5.....	9.73 cts.	9.22 cts.	8.0 cts.	7.0 cts.	7.5 cts.	7.5 cts.
1.0.....	6.49	6.11	6.0	6.0	6.25	6.25
1.5.....	5.40	5.07	5.33	5.65	5.82	5.82
2.....	4.87	4.56	4.50	5.12	4.87	5.25
3.....	4.33	4.04	3.67	4.25	3.92	4.33
4.....	4.06	3.53	3.25	3.81	3.44	3.85
5.....	3.90	3.22	3.00	3.55	3.25	3.60
6.....	3.79	3.02	2.83	3.37	2.96	3.42
7.....	3.71	2.87	2.71	3.25	2.82	3.29
8.....	3.65	2.77	2.64	3.16	2.72	3.19

NOTE:—For basis B, primary consists of first 70 kw-hr per month per active kw.
For bases C. D. E. & F. primary consists of the first 15 kw-hr. per month per active kw.
Secondary, the next 30 kw-hr. per month per active kw.
Excess consists of the balance.

A schedule consisting of a service charge and an energy charge, for which the variation of cost to the consumer is shown as Basis B in Table IX, probably would be considered an equitable method of charging for service if the conclusion were based solely on the analysis of the cost to the company. Conditions in this case seem, however, to argue against the use of this form of schedule unless the sum of the service and energy charges be limited by a maximum rate per kilowatt-hour. First, the diversity of use of current by short hour consumers seems to be greater than for long hour consumers. Therefore it is probable that the expense of supplying the former does not rise in such a remarkable degree as the cost curve seems to show. Second, the charge

fixed by the combination of service and energy rates becomes so prohibitively high in some cases that the consumer cannot afford to use the service if he must pay for it on that basis. Yet, if there is some element of profit in this business at a lower rate, other classes of users are not adversely affected if the lower rate be charged.

The objectionable feature of the service charge can be obviated by using a maximum limiting rate. A similar result may be arrived at if we employ a schedule based on the use of the active load.

The power revenue for the year ending June 30, 1912, cost of service and estimated revenue at the various rates shown in Table IX are revealed in Table X:

TABLE X.

COST AND REVENUE FOR POWER.

Year ending June 30, 1912.

Actual revenue		$4,029
Cost of power	Basis A	4,854
Estimated revenue	" B	4,389
" "	" C	3,647
" "	" D	3,909
" "	" E	3,810
" "	" F	4,017

The estimated revenues for bases C, D, E and F would be still further enhanced if a minimum bill for power service were charged. A discussion of the propriety of a minimum charge has been entered into in other cases and will not be repeated here. The respondent's minimum charge for power is now 50 cts. per horse power per month and this provision will not be changed at this time.

The estimate of power revenue, shown in Table X, is based on analysis of the connected load, monthly consumption, and monthly charge for the year ending June 30, 1912. In finding the number of active horse power the following percentages were employed:

First	10 h. p. connected	90	per cent active
Next	20 " "	75	" "
"	30 " "	60	" "
All over	60 " "	50	" "

On this basis, it was found that the connected power load, amounting to 256 horse power, would be considered about 85 per cent active. This is equal to 218 active horse power.

The current used in excess of 70 kw-hr. per month per active horse power was about 15,000 kw-hr. per year. The current equivalent to 15 kw-hr. or less per month per kilowatt of active load was $21,666 kw-hr.; next 30 kw-hr. per month per kilowatt of active load, 27,083 kw-hr.; all over 45 kw-hr. per month per kilowatt of active load, 41,528 kw-hr. This distribution of sales was arrived at by analysis of 85 per cent of the power sales. As it is probable that the remaining 15 per cent was used mostly by short hour users, it is believed that the estimates of revenue are a conservative statement of what the earnings would be under these schedules.

The respondent states that a comparatively low cost for power has been attained because its generating equipment is more fully loaded than customary practice dictates. In other words, the extra capacity usually required to take care of peak loads and emergencies in plants of this kind, if installed in this plant, would increase the respondent's investment and therefore the cost of power also. The respondent asks that it be permitted to enforce a rule requiring consumers using current for power to discontinue use of current during the peak load on the plant or to pay a greater rate if current be taken at that time. Judging from the information now before the Commission, it seems that a rule of this kind is not unreasonable in this instance because usually the lowest rates should be given to those who can be supplied most cheaply. We have already seen that the estimated earnings from the proposed power schedule do not equal the costs allotted to this service in the apportionment that we have made of the expenses. An advance of 10 cts. per active horse power in the service charge will not advance the charge for service beyond its cost.

Under the old power schedule the average charge decreases with the size of the bill without reference to how long the load may be used. Under the proposed schedule a small customer would be able to get the same average rate as a large customer if the active load is used, on the average, the same number of hours per day. It is fortunate that the two large power customers who have received the cheapest current under the old schedule are the most economical users. Because they use their active loads longer than the average power consumer, their annual bills under the proposed rate would have been practically unchanged for the year ending June 30, 1912, despite the fact that the total

revenues from all power sales would have been somewhat increased. The proposed rates would yield sufficient return to make the power business profitable to the respondent, and, at the same time, make excess current cheap enough for owners of large installations to purchase current in preference to operating isolated plants.

In order to give consumers advantage of cheaper current for small power appliances which are usually supplied from the lighting circuits the respondent has, in some instances, installed separate meters and charged for the current at 6 cts. per kw-hr. This is an expensive method of supplying the service, considering the amount of current usually delivered for this purpose, and yet it is quite apparent that some reduction must be made if this kind of business is to be obtained. Under the new form of lighting schedule service may be given to incidental appliances, such as flat irons, toasters, electric fans and private washing machines, at a lower rate without installing a separate meter if the capacity of the appliances be not considered in computing the active load supplied through lighting meters. By this method, the secondary and excess rates are attained much sooner than if the load of the appliances were considered in figuring the active load.

Street Lighting.

The total cost of service for municipal lighting was found by analysis to be $3,452. The present rates of $24 per year for tungsten lamps burning 4,000 hours and $18 for those burning 1,450 hours are approximately equal to the cost of service and need not be changed. When this proceeding was started the rate of 4 ampere series magnetite arcs, burning 1,450 hours annually on a moonlight, dusk to 12:30 a. m. schedule, was $65 per annum. This charge for the service is found to be too high and probably would be reduced except for the fact that we now find the respondent supplying all night service at the same rate. And as the cost of all night service appears from estimates of the additional expense to agree very closely with the rate now charged, no modification of the existing rate is required.

SUMMARY.

The analysis of the investment and operating expenses for the year ending June 30, 1912, reveals that the revenues from commercial lighting exceeded the cost for this class of service by

about $1,500; that the revenues from commercial power were less than the cost by about $800; and that the street lighting revenue exceeded the cost by $1,300. In the case of street lighting, however, the amount of service rendered at the same rate was subsequently increased so that now the cost and earnings are about the same. It was also found that the form of the schedules for lighting and power did not conform to the cost of supplying service to the different users. Accordingly, it is believed that the respondent's schedules should be modified to accomplish the following primary results:

1. A lighting schedule which will reduce the average charge and which is graduated according to the average daily use of consumer's active load.

2. A lighting schedule which will place the maximum charge for all commercial lighting on the same level.

3. A power schedule which will very slightly increase the average charge for power and which is graduated according to average daily use of the consumer's active load.

The evidence appears to be convincing that the rates determined herein upon analysis of the facts are appropriate for the respondent's business. We are mindful of the fact that the valuation of the property is of January 1, 1913, which is some time later than the period for which the expenses were used in these computations. It appears that the impetus given to the development of business by the reduction of the lighting rate and by the change in the graduations will add to the return on the investment, but we do not rely upon this assumption in the following order.

IT IS THEREFORE ORDERED, That the respondent in this case, the Monroe Electric Company, of Monroe, Wis., discontinue its present schedule of rates for commercial electric light and power service within the city of Monroe, and, in lieu thereof, place in effect the following schedule of rates, deemed just and reasonable:

I. COMMERCIAL LIGHTING.

(a) Meter Rate.

Primary: 12 cts. net per kw-hr. for the first 30 kw-hr. per month per active kilowatt of connected load.

Secondary: 9 cts. net per kw-hr. for the next 60 kw-hr. per month for active kilowatt of connected load.

Excess: 4 cts. net per kw-hr. for all use in excess of 90 kw-hr. per month per kilowatt of connected load.

The following percentages of connected lighting loads shall be deemed active:

For Class A, which shall include residences, dwellings, flats, private rooming houses, hotels, hospitals and clubs in which meals and rooms are furnished, 60 per cent of the first 500 watts connected and 33⅓ per cent of all in excess of 500 watts connected shall be deemed active.

For Class B, which shall include banks, offices, stores, shops, saloons, billiard and pool halls, depots, theaters, club and lodge rooms, moving picture theaters, and establishments of a similar nature, 70 per cent of the first 2.5 kilowatts connected and 55 per cent of all in excess of 2.5 kilowatts connected shall be deemed active.

For Class C, which shall include public buildings, schools, churches, factories, warehouses, stables, garages, and establishments of a similar nature, 55 per cent of the total connected load shall be deemed active.

The minimum bill for this schedule shall be $1.00 per month.

(b) Flat Rate.

50 cts. net, per month per 16 c. p. lamp.

This rate is to apply to hall, toilet and other similar lights, where the consumer has no lighting meter installed. The company shall have the option of installing a meter where there are two or more lamps in one building and must do so if there are four lamps or more.

(c) Rental of Clusters.

A monthly charge of 25 cts. in addition to the regular charge for current, shall be made for the use and maintenance of four-light clusters installed complete at the expense of the company. The company is to furnish free tungsten lamp renewals of any size desired for the first five years after the installation of the cluster, at the end of which period the cluster, complete and installed, shall become the property of the consumer and the monthly rental charge shall cease.

II. Commercial Power.

REGULAR SCHEDULE.

(a) Limited Use.

This rate shall apply to consumers not using current from 4.30 p. m. to 10:00 p. m. during the months of November, December, January, February and March, and from 6.00 p. m. to 10.00 p. m. during the months of April, May, June, July, August, September and October.

Service charge:	$0.70 net per month per active horse power connected.
Energy charge:	
Primary:	3.0 cts. per kw-hr. for the first 70 kw-hr. per month per active horse power connected.
Excess:	2.0 cts. per kw-hr. for all current in excess of 70 kw-hr. per month per active horse power connected.

The sum of the service and energy charges shall not exceed 10 cts. per kw-hr. if the total bill exceeds the minimum monthly charge. The minimum monthly charge for this schedule shall be 50 cts. per horse power connected.

The minimum charge shall be based on the rated capacity of equipment used under this schedule and 746 watts shall be considered the equivalent of one h. p. when the equipment is rated in watts or kilowatts.

The active load shall be determined as follows:

Power,	90	per cent	of	the	first	10	h. p.	shall be deemed	active.
	75	"	"	"	next	20	"	" "	"
	60	"	"	"	"	30	"	" "	"
	50	"	"	all	over	60	"	" "	"

Except, however, if capacity of the motor exceeds the possible load, total possible load shall be deemed h. p. connected.

(b) Unlimited Use.

The foregoing power schedule plus 10 cts. per active horse power in the service charge shall apply to use of current for power not limited as to time.

III. Cooking.

Primary:	7.5 cts. net, per kw-hr. for the first 15 kw-hr. per month per kilowatt of active load.
Secondary:	5.0 cts. net, per kw-hr. for the next 30 kw-hr. per month per kilowatt of active load.
Excess:	3.0 cts. net, per kw-hr. for all use in excess of 45 kw-hr. per month per kilowatt of active load.

Twenty per cent of the rated capacity of cooking equipment shall be deemed active.

If not more than 20 per cent of the connected load is power, the whole shall be deemed heating.

The minimum bill for this schedule shall be $1.00 per month.

IV. Incidental Appliances.

Incidental appliances not exceeding 600 watts for any one appliance, such as electric fans, flat irons, private washing machines, toasters, ranges of under 1.5 kilowatts and other similar household conveniences, shall be placed on the lighting rate but omitted from the calculation of connected load. That portion of the rated load in excess of 600 watts for any one appliance shall be added to the connected load in computing the active load. It is further provided that any consumer having a connected load of over 2 kilowatts consisting of the above appliances including motors, may at his option have a power meter installed and pay for the current consumed by such load at the power rate.

V. Free Service.

All free service whatsoever and all flat rates not specifically provided by this order shall be discontinued.

H. R. ANDERTON ET AL.

vs.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY.

Decided April 6, 1914.

This is a rehearing, upon application of the respondent, of a matter decided Aug. 22, 1913, 12 W. R. C. R. 506. The respondent objects to the order of the Commission requiring it to stop its trains No. 5 and No. 6 at Readfield on signal to receive and discharge passengers. The trains in question are interstate trains and though they stop at certain stations no larger than Readfield they do so only because of the respondent's reluctance to discontinue service to which the respondent's patrons have become accustomed from long usage. New data with reference to the passenger traffic at Readfield are considered.

If a railway company furnishes reasonably adequate service to a community it cannot be required to furnish additional service to that community merely because it furnishes more than adequate service to communities of similar or less importance.

Held: In the light of the new evidence introduced, the failure of the respondent to stop its trains No. 5 and No. 6 at Readfield would not constitute an unjust discrimination against Readfield nor result in service which would be legally inadequate. The former decision is reversed and the original complaint is dismissed.

REHEARING.

An order was made in the above entitled matter on August 22, 1913 (12 W. R. C. R. 506), requiring the respondent railway company to stop its trains No. 5 and No. 6 at Readfield, Waupaca county, on signal, to receive and discharge passengers. Upon the application of the respondent a rehearing was granted and held on September 24, 1913. The petitioners were represented by *Edward Dempsey,* their attorney, and the respondent by *A. H. Lossow,* its commerce counsel. The matter was orally argued on February 10, 1914.

It appears that the only difference between the service which would be afforded Readfield by trains No. 5 and No. 6 and that afforded by trains No. 11 and No. 12 is that the former trains would enable the residents of Readfield to go to Neenah to trade, whereas, with the present service they have more convenient access to the county seat at Waupaca, which is a smaller trade cen-

ter than Neenah. Trains No. 5 and No. 6 are interstate trains operated between Chicago, Ill., and Eau Claire, Wis., and make 55 regular stops and 20 flag stops. It was explained on the part of the respondent that the reason such trains now stop at unimportant stations is that they have operated for many years on substantially the same schedule, and therefore it has been deemed inadvisable to withdraw a service to which the residents of such towns have adjusted themselves and become accustomed. It was also contended that under the present arrangement reasonable connections are afforded passengers from Readfield destined to Milwaukee and Chicago. The operating department of the railway company maintains that trains No. 5 and No. 6 are very busy trains and are operated as fast between stations as is consistent with safety in order to maintain their schedules.

It appears that the distance between Chicago and Eau Claire is 364.4 miles, and that the running time of the trains in question is 12 hours and 45 minutes. These trains, as stated above, make 55 regular stops and 20 stops on signal. The average number of stops made by these trains daily is probably about 70. From the time that a train begins to slacken speed before a stop, until the time it again is under full headway after the stop, a minimum of 3 minutes is consumed. Assuming that these trains make an average of 70 stops they lose 3½ hours in running time. Consequently, the actual speed of these trains between stations is between 38 and 39 miles. This is a very high rate of speed and should not be permitted to be increased.

On the part of the petitioners it is claimed that the people of Readfield have little business to transact at Waupaca and do most of their trading at Neenah. According to the respondent's schedule, Readfield is the only passenger station on the routes of trains No. 5 and No. 6 at which they do not stop. Some of the stations at which these trains stop are of no greater importance than Readfield.

A count made by a witness showed the number of passengers boarding and departing from the trains which now stop at Readfield, from May 29, 1913, to July 19, 1913, and from September 15, 1913, to September 22, 1913, a total period of 61 days. These data are summarized in the following table:

	Total passengers.	Passengers boarding.		Passengers alighting.	
		Train 11.	Train 12.	Train 11.	Train 12.
Total passengers.....	598	143	172	172	111
Average per day	9.7	2.3	2.8	2.8	1.8

Subsequent to the hearing the company submitted a statement showing the number of passengers boarding trains at Readfield, with their destination and the resulting revenue, for June, July and August, 1913. A summary of these data follows:

Month.	Passengers boarding.			Total outbound revenue.
	Train 11.	Train 12.	Total.	
June, 1913.....	52	81½	113½	$59 13
July, "	61	78	139	51 16
August, "	59½	87	146½	62 05
Total.....	172½	246½	419	$172 34
Daily average.....	1.9	2.7	4.6	1 87

The power of the Commission over interstate trains is limited. If a railway company furnishes reasonably adequate service to a community, it has performed its public obligation in that respect. Further service is a matter of discretion on the part of the company, and not a duty that can be imposed by public authority. (*Farmer v. D. S. S. & A. R. Co.* 1907, 1 W. R. C. R. 316; *Schmidt v. G. N. R. Co.* 1909, 4 W. R. C. R. 121; *Laun v. C. M. & St. P. R. Co.* 1910, 6 W. R. C. R. 5.) If the service now afforded Readfield is reasonably adequate, as that term is defined and applied by the authorities, it is incumbent upon the Commission to vacate the order made herein.

The experience of three months during which the train in each direction was stopped at Readfield shows an average of only about nine passengers daily, yielding a revenue of approximately $3.60. This showing clearly indicates in our opinion that under existing conditions the present service, though not as convenient as might be, is not legally inadequate. The fact that trains No. 5 and No. 6, as well as trains No. 11 and No. 12, stop at sta-

tions of equal or less importance than Readfield may be regarded as a discrimination, but in the light of the new evidence introduced upon the rehearing, we do not regard it as unjustly discriminatory. In fact, the village of Readfield is not a station on the respondent's line. It is situated some little distance from the line, and people are obliged to travel some little distance to reach the station named Readfield. Nevertheless, these people are entitled to reasonably adequate service as they are tributary to the respondent's line and have no other line available. Until comparatively recently the people of Readfield were obliged to go to other stations on the respondent's line. In order to accomodate them, a flag station was established at the point nearest the village, and this station was given the name of the village.

The only reason that justified the stopping of the trains in question at small stations, after trains No. 11 and No. 12 were put into service, was a reluctance on the part of the respondent to discontinue service to which patrons had been accustomed from long usage. It does not appear that the practice of the company in rendering more than a minimum of service which might be deemed legally adequate at other small stations on its line, has in any sense injured residents of Readfield. Trains No. 5 and No. 6 should not be required to increase the number of stops. To do this with safety of operation would require an extension of the scheduled time between Chicago and Eau Claire. The result of this would be the inconveniencing of the greater number in order to convenience the few. Furthermore, it would result in a loss of patronage, and this, in turn, might inevitably require the discontinuance of these trains.

After a careful investigation of all the facts and circumstances, we are reluctantly compelled to reverse our former decision and dismiss the complaint.

NOW, THEREFORE, IT IS ORDERED, That the order made herein on August 22, 1913, be and the same is hereby vacated and set aside.

IT IS FURTHER ORDERED, That the complaint be and the same is hereby dismissed.

WILLIAM RUST

vs.

MINNEAPOLIS, SAINT PAUL AND SAULT STE. MARIE RAILWAY COMPANY.

Submitted Feb. 27, 1914. Decided April 7, 1914.

The petitioner, who is engaged in buying and selling coal and other merchandise at Mukwonago, alleges that the respondent refuses to lease him a suitable site for a warehouse on its right of way at Mukwonago and asks that the Commission take such action as it deems just in the premises. If granted the desired site, the petitioner proposes to ship merchandise of various kinds into Mukwonago, store it temporarily and sell it to farmers and other customers.

Held: There is no evidence to show that the proposed warehouse would be used in any other way than as a private warehouse in connection with a private mercantile business. The Commission is therefore without jurisdiction in the matter and the petition is dismissed.

The petitioner, who is engaged in buying and selling coal and other merchandise at Mukwonago in Waukesha county, alleges in substance that the Minneapolis, St. Paul & Sault Ste. Marie Railway Company refuses to lease him a suitable site for a warehouse on its right of way at Mukowonago. The Commission is therefore asked to take such action as it deems just in the premises.

The respondent in its answer alleges that prior to making complaint to the Commission the petitioner sold his business in Mukwonago with the agreement that he would not engage in business in that village so long as his purchasers continued to transact such business at that point. It further alleges that the warehouse site desired by the petitioner cannot be granted without improper interference with the safety of the respondent, or without imposing upon it expenses which it ought not to be required to assume. It therefore asks that the petition be dismissed.

A hearing was held on February 27, 1914, at Mukwonago, at which *William Rust* appeared in his own behalf, and *Kenneth Taylor* for the respondent.

This action is brought under sec. 1802-*a* of the statutes, which is as follows:

"Any persons proposing to erect and construct a public elevator or public warehouse to be operated for hire, for the purchase, sale, storage or shipping of grain or other personal property to be transported upon any railroad, shall be furnished by such railroad at a reasonable rental, a site upon its vacant right of way or depot grounds, within the yard limits of any station or terminal or such railroad; and the railroad commission shall, upon application, if it shall deem the public interest so requires, by order, direct the railroad to furnish such site and in case of disagreement, the commission shall determine the rental therefor. Elevators and warehouses erected under the provisions of this section shall be deemed to be public elevators or warehouses and shall be subject to such rules and regulations as to charges and the manner of conducting business, as the commission shall prescribe. Provided, that this section shall not apply to cities."

This statute empowers the Commission to require a railway company to lease a site on its right of way only when such site is to be used for the construction of a public elevator or warehouse. The petitioner testified that if granted the desired site, he proposes to ship coal, cement, flour, bran and foodstuffs of all kinds into Mukwonago, store them temporarily, and sell to farmers and other customers. There is no evidence to show that the proposed warehouse would be used in any other way than as a private warehouse in connection with a private mercantile business. Under such circumstances it is obvious that the Commission is without jurisdiction in the matter.

If the petitioner acquires a suitable site for his business on or off the railway right of way and desires a spur track connection therewith, he can obtain such connection by an appropriate action before the Commission under sec. 1797—11*m* of the statutes, which provides for the construction of an industrial spur track at the expense of the petitioner, if such track does not exceed three miles in length, is practically indispensable to the industry and is not unusually dangerous or unreasonably harmful to the public interest.

IT IS THEREFORE ORDERED, That the petition herein be and the same is hereby dismissed.

WACHSMUTH LUMBER COMPANY

vs.

BAYFIELD TRANSFER RAILWAY COMPANY.

Submitted Feb. 10, 1914. Decided April 7, 1914.

The petitioner alleges that the rates provided by the respondent's tariff of Jan. 1, 1914, for the transportation of logs are excessive and unjustly discriminatory against the petitioner. The petitioner also alleges that many of the cars in use are so defective that they will not carry the minimum weight of 45,000 lb. established by the respondent and complains that the car equipment in general is defective and inadequate and a source of great expense to the petitioner, by reason of the fact that the petitioner is required to replace all cars destroyed in operation and to repair all defective cars. Two questions are considered in deciding the matters at issue: (1) that of rates; and (2) that of the minimum weight of 45,000 lb. The respondent controls and operates two subsidiary lines which comprise, with its own lines, a mileage of about fifteen miles. The combined enterprises, which appear to be under one ownership, have a total bonded indebtedness nearly ten times as great as the present value of the physical property used and useful in carrying on the business. Investigation of the respondent's revenues and expenses for the years 1908 to 1913, inclusive, shows not only that the respondent has failed during these years to meet the interest charges on its funded debt but also that the income of the respondent has been insufficient in all of the years indicated to pay a fair return even on the present value of the property used and useful in the business and in several years to meet operating expenses.

The reasonableness or unreasonableness of a given rate cannot be determined by the consideration of any one alone of the several factors which are involved in the matter but the peculiar conditions out of which the rate grew must be taken into account along with the general principles which are recognized as applicable in the establishment of all rates.

Held: 1. Although the rates complained of are prima facie not unreasonable when the character of the service and the rates charged over other lines for a like service are considered, certain modifications in the tariff should be made to prevent the doing of injustice to the petitioner.

2. The minimum weight of 45,000 lb. per car, in view of the defective condition of many of the cars in use, is excessive.

The respondent is ordered to put into effect a tariff on logs fixed by the Commission, subject to a minimum weight of 40,000 lb. per car. On shipments from Sunnyside to Bayfield, inasmuch as the distance involved is but a fraction over five miles, the five mile rate, instead of the ten mile rate as proposed by the respondent, is to apply.

This case comes before the Commission in the form of a complaint by the Wachsmuth Lumber Company, setting forth that a new tariff issued by the Bayfield Transfer Railway Company, which went into effect January 1, 1914, increases the rates for hauling logs for the petitioner to a point that is "unfair, excessive and unreasonable, and out of proportion to the physical valuation (value) of said railroads, and unjustly discriminatory against the petitioner."

A hearing was held at the office of the Commission in Madison on February 10, 1914. *John Walsh* appeared as attorney for the petitioner and *Alfred H. Bright* for the respondent company.

In the formal petition and at the hearing the petitioner set forth other causes of complaint in addition to that of excessive charges, one being that the car equipment of the respondent was defective condition. It was further alleged by the petitioner being that the respondent had established a minimum weight per car of 45,000 lb. and that nineteen or twenty of the fifty-eight cars in use would not carry the minimum weight, owing to defective condition. It was further alleged by the petitioner that a frequent shortage of cars prevented the economical loading of cars by the petitioner; that the latter had to replace all cars destroyed in operation and repair defective ones, and that the worn-out condition of many of the cars in use caused the petitioner to pay large sums annually for repairs; that the roadbed was not properly ballasted, and was otherwise defective, so that ten or twelve miles an hour was the highest rate of speed at which trains could be run. The petitioner also alleged that the respondent company was too expensively operated, paying for use of cars an exorbitant rental, and that the increase in rates would add to the transportation expenses of the petitioner $15,000 a year.

Mr. Hale, general manager of the respondent company, testified at the hearing that the operating expenses, including the office expenditures, were as low as practicable; that some of the cars used had a capacity of 70,000 lb. and were equal to that load, and that he did not consider the rent paid to one C. E. Wales for twenty cars hired from him ($7,286.76 in two years) was exorbitant.

Out of the complaint and answer and the testimony at the hearing there emerge two distinct questions for the consideration of the Commission: (1) Whether the new rates of the respondent

company which went into effect on January 1, 1914, are unreasonable; (2) whether the respondent is justified in maintaining a minimum weight of 45,000 lb. per car. The other questions, which have arisen incidentally, will adjust themselves when these two are settled.

The reasonableness or unreasonableness of a given rate cannot be determined by the consideration of any one alone of the several factors which are involved. It has become virtually an axiom of the courts that in passing upon the reasonableness of a given rate the peculiar conditions out of which the rate grew must be given due consideration along with the general principles which are recognized as applicable to all rates. The present case with its peculiar conditions is no exception to the rule.

Let us examine some of the conditions presented. The respondent company, the Bayfield Transfer Railway Company, controls and operates two lines of subsidiary companies, the Bayfield Harbor & Great Western and the Bayfield, Superior & Minneapolis, which, with its own short line, comprise a total mileage of 14.99 miles. It is fair to infer that, though existing under different corporation names, the three enterprises are under one ownership. Part of the car equipment used is rented, including one locomotive and twenty cars. The combined enterprises have a funded indebtedness of $1,500,000, upon which the rate of interest is 5 per cent. There is a wide disparity, however, between the funded debt and the actual total value of the properties involved. The Commission's engineers have fixed the cost of reproduction under date of 1913, of the fourteen odd miles of road at $240,517, with a present value of $151,185. In other words, the actual present value of the respondent company's physical property used and useful in carrying on its transportation business is a little over one-tenth the amount of the total bonded indebtedness. Whether the bonds were sold or were, and are now, held by the holders of the stock of the combined enterprises, does not appear. The enterprises were prospected as a great terminal and harbor scheme, and the bonds were doubtless issued on the prospective value as such terminal and harbor facilities. These facts have no very direct bearing upon the questions under consideration, except as they go to explain the large interest item and larger deficits in Table II below.

Upon the actual present value of the combined enterprises as found by the Commission's engineers, and which, by the way,

has steadily decreased since 1910, the highest returns from any one year was 4.45 per cent, allowing nothing for depreciation or for interest. The year following (1912) the total income fell about one-half of one per cent below operating expenses in which were included taxes. That is, the respondent did not quite pay operating expenses, to say nothing of any allowance for depreciation or interest. Table I shows the operating results for six years.

TABLE I.

RATE OF RETURN ON INVESTMENT

BAYFIELD TRANSFER RAILWAY COMPANY.

Italic figures denote deficits.

		1913.	1912.	1911.	1910.	1909.	1908.
1.	Operating revenues	$32,347 48	$37,829 38	$39,902 65	$15,085 30	$7,215 25	$6,34[illegible] 51
2.	Operating expenses	23,392 80	31,959 40	28 681 58	23,013 78	9,755 84	18,22 5[illegible]
3.	Net operating revenue	$9,014 68	$5,869 98	$11,221 07	*$7,928 48*	*$2,540 59*	1 120 9[illegible]
4.	Taxes	482 83	402 43	321 47	252 24	280 15	367 09
5.	Operating income	$8,531 85	$5,467 55	$10,899 60	*$8,180 72*	*$2,820 72*	$753 84
6.	Hire of equipment	4,168 32	6,215 38	4,000 66	215 00	.....	.....
7.	Balance available for return on investment	$4,393 53	*$747 83*	$6,898 94	*$8,395 72*	*$2,820 72*	753 84
8.	Cost of reproduction new	$240,517	$244,322	$244,226	$242,370	$230,258	$217,906
9.	Present condition	151 185	153,853	154,915	158,827	147,057	134,768
10.	Return on cost new	1.83%	*0.31%*	2.82%	*3.46%*	*1.23%*	0.35%
11.	Return on value present condition	2.91%	*0.49%*	4.45%	*5.29%*	*1.92%*	0.56%

It will be seen from the preceding table that for the year ending June 30, 1913, the respondent earned an amount over and above operating expenses, including taxes, equal to 2.91 per cent upon the present value of $151,185, nothing being allowed for depreciation or interest. Probably because of the generally insufficient income the respondent appears to have disregarded the necessity for a depreciation allowance, and the fact of the steadily diminishing value of the physical property is an eloquent proof of this disregard.

Such a return as indicated in Table I might, if the volume of business were maintained, enable the company to keep up its roadbed and equipment at a fair standard of service, but would leave nothing by the way of a return on the investment. Assuming the correctness of the statement of the petitioner that the new rates in force would increase the cost of transportation to it

$15,000 per year, that sum added to the respondent company's income would give the respondent a not unreasonable return on the present value of its property in addition to providing for depreciation. Prima facie, then, the respondent company would seem entitled to some increase in its rates above those which produced the returns for the fiscal year ending June 30, 1913. Table II, which follows, shows somewhat more in detail the actual status of the respondent company, covering the six years ending June 30, 1913:

TABLE II.

INCOME ACCOUNTS.

BAYFIELD TRANSFER RAILWAY COMPANY.

Operating also under agreement Bayfield Harbor & Great Western Ry., Bayfield, Superior & Minneapolis Ry.

Italic figures denote deficits.

	Years Ending June 30,					
	1913.	1912.	1911.	1910.	1909.	1908.
Operating revenues	$32,347 48	$37,829 38	$39,902 65	$15,085 30	$7,215 25	[1]$19,341 51
Operating expenses	23,302 80	31,959 40	28,681 58	23,013 78	9,755 84	18,220 58
Net operating revenue	$9,044 68	$5,869 98	$11,221 07	*$7,928 48*	*$2,540 59*	$1,120 93
Taxes	482 83	402 43	321 47	252 24	280 13	367 09
Operating income	$8,561 85	$5,467 55	$10,899 60	*$8,180 72*	*$2,820 72*	$753 84
Deductions from operating income:						
Hire of equipment	$4,168 32	$6,215 38	$4,000 66	$215 00	.....	.....
Interest on funded debt	75,000 00	75,000 00	75,000 00	75,000 00	$75,000 00	$75,000 00
Other interest	6,476 38	.....	.....	546 27	[2]11,524 93	11,436 61
Total deductions	$85,644 70	$81,215 38	$79,000 66	$75,761 27	$86,524 93	$86,436 61
Loss for year	*$77,082 85*	*$75,747 83*	*$68,101 06*	*$83,941 99*	*$89,345 65*	*$85,682 77*
Profit and loss credit items	.....	.....	.....	135 11	.....	.....
" " " debit "	*121 25*	*48 19*	*25 22*	.....	.....	.....
Balance to balance sheet	*$77,204 10*	*$75,796 02*	*$68,126 28*	*$83,806 88*	*$89,345 65*	*$85,682 77*

[1] Includes $160.41 reported as "Outside operation revenue."
[2] Supplied to check balance sheet.

It is not overlooked that there may be cases where extravagance or other forms of inefficiency in management are the chief causes of inadequate return upon investment, but in the present case the charge of extravagance will not lie. With the exception of the payment of an exorbitant rental for twenty cars, the expenses of operation appear to be not above the average. In view of the fact that the reduction of the rental referred to down to a reasonable sum would not noticeably affect the result as to rate of

return, it is not necessary to dwell upon the matter of rental further at this time.

We have now to consider the rates fixed by the new tariff against which complaint is made, first with respect to their relation to rates charged by other roads for a similar service, and secondly with respect to their relation to the traffic itself. The new tariff is as follows:

RATES IN CENTS PER 100 LB.

(Where rates are not named for the exact distance, rates for the next greater distance will apply)

For distance of 5 miles, rate of 1.3 cts. will apply.
For distance of 10 miles, rate of 1.4 cts. will apply.
For distance of 15 miles, rate of 1.5 cts. will apply.
Minimum weight 45,000 lb.

Then follows a list of stations and distances.

It was testified at the hearing that the rates prior to the going into effect of the present tariff were $1 per 1,000 feet on all shipments of logs loaded on the petitioner's spur, and $1.50 per 1,000 feet on all logs loaded on the respondent company's lines, and that, in addition to this, the petitioner had to pay 25 cts. per car to the "Omaha" railway company for the switching of the loaded cars through the latter company's yards.

In Table III are shown the rates charged by some of the larger companies for service similar to that performed by the respondent company:

TABLE III.
RATES ON LOGS, CARLOADS, VIA LARGE LINES.
In force March 24, 1914.

Miles.	Chicago, St. Paul, Minneapolis & Omaha Ry. Co.[1]		Chicago & North Western Ry. Co.		Chicago, Milwaukee & St. Paul Ry. Co.	Minneapolis, St. Paul & Sault Ste. Marie Ry. Co.
	Concentration rate.		Concentration rate.	Rate when product not shipped via C. & N. W. Ry.	Concentration rate.	Concentration rate.
	In cts. per 100 lb.	Per 1,000 ft. logs.	In cts. per 100 lb.	In cts. per 100 lb.	In cts. per 100 lb.	In cts. per 100 lb.
5	2	$1 00 $0 70	1	1.5	1	1.1
10	1¼	1 00 1 25	1	1.64	1	1.2
15	1¼, 1¼	1 00 1 25	1	1.78	1.2	1.3
20	2, 1¼, 1¼	1 25 1 00 1 60	1	1.92	1.3	1.4

[1] The C. St. P.M. & O. Ry. has no distance rates on logs. The rates shown are specific rates from and to named points where distance, under a distance tariff, would apply as shown in table.

Table IV shows rate charges by small companies for similar service:

TABLE IV.

RATES ON LOGS, CARLOADS, VIA SMALL LINES.

In force March 24, 1914.

Miles.	Bayfield Transfer Ry.	Dunbar & Wausaukee Ry.	Fairchild & Northeastern Ry.	Hazelhurst & Southeastern Ry.	Mattoon Ry.	Marinette, Tomahawk & Western Ry.
	Cts. per 100 lb.	Per 1,000 feet.	Per car.	Cts. per 100 lb.	Cts. per 100 lb.	Cts. per 100 lb.
5	1.3	$1 65	$6 00	3.	2.2	1.5
10	1.4	1 65	6 00	3.3	2.4	1.64
15	1.5	1 65	9 00	4.	2.55	1.78
20	.....	2 15	9 00	4.5	2.7	1.92

Concerning the statement by the petitioner that when the spur tracks were built by it connecting the respondent company's line with the timber tracts of the petitioner, there was an understanding that the rates fixed then by the respondent were made low in consideration of such hauling, and the denial by the general manager of the respondent's line that there was such an understanding, it need only be said, if such an agreement were entered into it would be illegal and void and could have no weight in determining the reasonableness of the new rates.

Sec. 1797—22—2 of the statutes, covering this point, reads as follows:

"It shall be unlawful for any railroad to demand, charge, collect or receive from any person, firm or corporation a less compensation for the transportation of property or for any service rendered or to be rendered by said railroad, in consideration of said person, firm or corporation furnishing any part of the facilities incident thereto; provided nothing herein shall be construed as prohibiting any railroad from renting any facilities incident to transportation and paying a reasonable rental therefor."

A comparison of the rates in Tables III and IV with those of the respondent company's new tariff, against which the complaint is made, show the latter to vary little either way from those in force on other short lines for similar service. However, the fact that a large part of the petitioner's business now

reaches the respondent's line at Sunnyside, and that in the future most of the hauling will be done by the respondent from there, according to the unrefuted statement of the petitioner, puts a rather different face on the new rates. According to the testimony the haul from Sunnyside is out 5¼ miles, and as anything in excess of 5 miles up to 10 miles takes the latter rate, the respondent company would be receiving for a 5¼ mile haul on the larger part of the petitioner's business, a 10 mile rate. By these means a seemingly just rate might become decidedly unreasonable.

It is the opinion of the Commission that while the respondent company's new rates are prima facie not unreasonable, considering the character of the service and the rates charged by other lines for a like service, yet, under the new schedule it is possible that a measure of injustice might result to the petitioner. The Commission is also of the opinion that a minimum of 45,000 lb. per car, in view of the rather defective condition of many of the cars in use, is excessive; also, that the 10 mile distance rate should not be made to apply to shipments from Sunnyside, the haul from there being in reality only a fraction of a mile over 5 miles.

These suggested modifications of the present tariff may not fully meet the requirements of the situation, but if they prove inadequate after being in force a sufficient length of time to test them, still further modifications can be made.

IT IS THEREFORE ORDERED, That the Bayfield Transfer Railway Company withdraw its present tariff on logs which became effective on January 1, 1914, and substitute therefor the following schedule of rates:

RATES IN CTS. PER 100 LB.

For distance of 5 miles a rate of 1.1 cts.
For distance of 10 miles a rate of 1.2 cts.
For distance of 15 miles a rate of 1.3 cts.
Subject to a minimum weight of 40,000 lb. per car.

The 5-mile rate to apply on shipments from Sunnyside to Bayfield.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF THE SWITCHING RATES OF THE CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY AT MILWAUKEE, WISCONSIN.

Decided April 9, 1914.

The Commission, on its own motion, investigated (1) the reasonableness of an increase proposed by the C. M. & St. P. Ry. Co. in its rates for switching service for carload freight between industries on its own line and between these industries and connecting lines in the Milwaukee Terminal District and (2) the adequacy of the service itself, concerning which a number of informal complaints had been made. It appears that the railway company is taking reasonable measures to satisfy the service complaints and the order in the instant case is therefore restricted to the matter of rates. At the hearings individual shippers complained that the increased rates would be unreasonable and excessive. Complaint was also made that the application of the Wisconsin distance tariff to terminal movements requiring the use of team tracks would result in unreasonable and excessive charges, and that the proposed increase in the present reciprocal switching rates with connecting carriers would work serious hardships. A detailed physical valuation of the terminal properties and a detailed study of transportation movements in the district were made; the total freight expenses were apportioned among "Through", "In", "Out" and "Terminal" movements; and the costs of making the terminal movements were analyzed. An ideal terminal tariff based on cost and on weight and distance is considered.

The fact that the movements in question require the use of properties of relatively high value, as compared with other railway property used and useful in the service of the public, and the fact that the bulk of the movements consists of the transportation of raw or partly manufactured materials, the value of the movement of which is not very high to the shipper, make it extremely difficult to apply the cost theory of rate making unalloyed in the instant case. It is, indeed, evident that if each movement were called upon to pay the full estimated average cost of performing the service, including all indirect or overhead costs and dividends, the rates would be so high that many of the movements could not be made. The carrier should therefore be satisfied with a rate which, though it may not cover all the costs arising in connection with each movement, will nevertheless pay all the direct costs and assume a share of the burden of the indirect costs.

Though the terminal rates ordered in the instant case should eventually be increased beyond the increase granted by the present order, this cannot be done until certain line haul rates which are now under consideration are finally adjusted. The fact that the rates at present in effect have resulted in the establishment of economic and traffic conditions which it is a serious matter to radically disturb must also be taken into account.

Held: Considering both the necessary return to the railway company and the competitive status of many of the industries in the district, an industrial switching rate of 1 ct. per 100 lb., with minimum weights of 50,000 lb. and 60,000 lb. per car, is as high a rate as can reasonably be put into effect at this time.

It is ordered that the railway company put this rate into effect for the switching of carload freight at Milwaukee between industries on the company's lines in the Milwaukee Terminal District. In all cases where the present industrial switching rates are $5 per car or less, the minimum weight is to be 50,000 lb. per car; in all cases where the present rate is $6 per car, the minimum weight is to be 60,000 lb. per car.

It is contended in behalf of certain shippers that those owning their own switch engines and doing their own spotting and hauling of cars should be given a lower rate than other shippers. This contention assumes that it is the duty of the carrier to perform these services and that, in the event of their being performed by the shipper himself, the latter is entitled to what in practice would really amount to a division of the rate. Legal authorities upon the reasonable limits of the services which railways render as common carriers and which may be said to be included in the reasonable rate are consulted. The costs of the various modes of receiving and delivering both carload and less than carload freight were investigated and the fixed charges, interest and taxes upon the properties directly involved, such as land, trackage, buildings and paving, were ascertained. These costs were determined per unit of service for each of a large majority of the industries in the Milwaukee Terminal District, for cars originating at team tracks and for cars originating at the freight houses. As between the three services—industry track, team track and freight house—differences in costs are due primarily to differences in the fixed charges upon what may be called the ultimate terminal properties used.

The fact that individual shippers find it to their convenience to perform, by means of their own locomotives, services which under other circumstances would have to be performed by the carrier, is no reason for the granting of reductions in rates to such shippers.

Held: 1. It would appear that the service of transportation includes, in the case of carload freight traffic, all the initial and final movements involved in spotting cars upon industry spurs and in handling to and from team tracks and that this service should be paid for in a single rate.

2. It would be unreasonable, however, to demand, in the case of industrial railways serving industries of large expanse, that cars be spotted at plants regardless of the length of haul beyond the carrier's own tracks.

3. In view of the provisions of sec. 1797—22.2 of the statutes, the general state of industry in the Milwaukee Terminal District and other facts brought out in the instant case, the reduction in rates asked for in behalf of shippers doing their own spotting and hauling cannot be granted for the reason that it would not operate alike upon all shippers.

It is ordered that on shipments to or from connecting lines and to or from industries on the C. M. & St. P. Ry. originating upon, or destined to, C. M. & St. P. Ry. team tracks, the general industrial rate of 1 ct. per 100 lb. ordered herein be charged subject to the minimum weight requirements set forth above.

No decision is rendered in the instant proceedings with respect to that part of the suspended tariff which relates to reciprocal switching rates on traffic interchanged with connecting carriers.

On November 18, 1911, the Chicago, Milwaukee & St. Paul Railway Company issued a tariff, G. F. D. No. 2543–B, canceling G. F. D. 2543–A, quoting switching rates on carload freight

at Milwaukee between industries on the Chicago, Milwaukee & St. Paul Railway and between these industries and connecting lines. An examination of the tariff showed that its effect would be to increase the rates in force by about 80 per cent. At about the same time this Commission received a number of complaints against the Chicago, Milwaukee & St. Paul Railway Company alleging irregular and insufficient service in the same terminal. The complexity of the situation, involving both rates and service, was such that a general investigation was undertaken by this Commission upon its own motion.

The formal hearing in the matter was held on January 4, 1912, in the school board room of the city hall at Milwaukee. The Chicago, Milwaukee & St. Paul Railway Company was represented by *O. W. Dynes,* its commerce counsel, the city of Milwaukee by *Clifton Williams,* assistant city attorney, and numerous shippers in person and by attorney. As some who desired to appear were unable to do so at the first meeting, a second hearing was held in Milwaukee on March 14, 1912.

The question of service arose particularly in connection with the testimony of P. C. Eldredge, general superintendent, and W. H. McNaney, superintendent of terminals. Complaint was made that the equipment was insufficient and that the yards were so laid out as to make it impossible to get full efficiency out of the locomotives. In answer to this complaint Mr. McNaney explained that the road was supplanting its old locomotives with larger and more efficient engines and that it would not be long before there could be no complaint of the service. From time to time this Commission has made suggestions in the matter of service which have lessened materially the difficulties experienced by individual shippers. Altogether it appears that the railway company has responded with reasonable alacrity to the service complaints so that it will not be necessary to make any formal order in the matter of service at this time.

Insofar as the question of rates is involved the testimony of the Chicago, Milwaukee & St. Paul Railway Company may be summarized as follows:

Revenues and Costs.

It was maintained that for the month of November, 1911, the average earnings per car over the entire system were $30.03 and the operating cost per car $22.01, leaving a net operating revenue per car of $8.02. In order to have paid overhead charges (that is taxes, interest and dividends) each car should have earned a net revenue of $8.25. There was therefore a deficit of

23 cts. per car. Reducing these figures to a car-day performance, the total revenue per car per day was $2.45 and the operating expenses were $1.79, leaving a net operating revenue of 66 cts. As overhead charges were 67 cts. this meant a loss of one cent per car per day. For the month of January, 1912, similar computations showed a deficit of 53 cts. per car per day. The applicant also introduced charts purporting to show that, taking the period from 1908 to 1911, the total freight labor expense per thousand ton-miles had increased 96.6 cts. and that the total operating expenses for the same unit of service had increased $1.08, while the corresponding revenues had increased only 31 cts. The statement was also made that the direct costs of switching in the Milwaukee terminal amounts to about $8.00 per car movement, and that the costs including overhead charges would be $11.75 per car movement.

Valuation.

C. F. Loweth, the chief engineer of the road, testified that the physical value of the property within the city limits of Milwaukee should be estimated at $15,000,000 and that at the time of the hearing there were 241 miles of track in this district, of which 30.43 miles were main line tracks.

Tariff Making.

Edward S. Keeley, vicepresident in charge of traffic, gave a history of the development of switching rates. It was the object of the railway company at first to encourage the building up of industries along its track, and so a switching rate, if one was made at all, was merely nominal. Later the rate was raised in an effort to have it cover the cost of service. When Commission regulation came into effect and it became necessary to publish all tariffs, a flat rate of $5 per car was made and enforced. As the territory enlarged and the traffic became greater it became apparent that this rate did not cover the cost of the service. A similar difficulty had been straightened out in Chicago, and the railway company was desirous of establishing the same tariff in Milwaukee. The rates were fixed without reference to the distance as it was felt that injustice would be done should switching zones be established.

On the part of shippers the general tenor of the testimony was that the proposed increases were regarded as unreasonable and excessive. Individual shippers in person or by attorney called attention to certain special considerations which would have to be taken into account in applying the tariff. Thus it was asked

whether companies owning their own switch engines and doing their own spotting and pulling of cars were not entitled to a lower rate. In the case of the operation of quarries within and without switching limits, it was asserted on the one hand, that an increase in switching rates would bring outside concerns into more active competition with local producers, and, on the other hand, that it would discourage the purchase and operation of quarries within the terminal district. Further, this claim was advanced that inasmuch as coal is one of the essential elements of raw material to manufacturing plants, such plants should be granted a remission charge when they deliver the finished product. Moreover, the proposed increase, by equalizing the cost between Indiana and Illinois all-rail coal and dock coal, would seriously affect the latter. Objection was also made to the provision in the tariff requiring movements between industry tracks and team tracks to be made under the general distance tariff. The charges, it was said, would be so excessive as to place the Milwaukee dealer at a disadvantage even with competitors as far distant as Chicago. There was a very general complaint against the increase of the present reciprocal switching rates with connecting carriers, who, it is asserted, would not absorb the increase of $3.00. Finally, the Chamber of Commerce, in behalf of its grain merchants, contended that the proposed increase would practically eliminate the receipt of grain in bulkhead cars which, on account of the extra delivery involved, would have to pay both the higher switching rate and the increased reciprocal rate.

The Commission is now in possession of such facts as enable it to issue a formal order in regard to a reasonable tariff for the Milwaukee Terminal District. An elaborate analysis has been made of the elements entering into the cost of the service and an additional study has been made of the economic conditions existing in the district under consideration. These two factors have been borne in mind in determining a rate which, although it will not render the class of business in question as profitable to the carrier as its regular line-haul business, will nevertheless increase the profitableness of the former to the extent to which economic conditions allow an increase. While in determining what is a reasonable rate for a given service the Commission seeks to isolate all the costs, both direct and indirect, yet in applying the various elements of reasonableness to a given rate the Commission must again view the service in connection with the manifold other services that a transportation agency renders. Accordingly the rate should not materially change the competi-

tive conditions under which the industries affected exist. While there should be no difference at present between the charge made for a haul of ten miles and that for one of five miles, it must not be inferred that this Commission believes such a situation will or should generally continue.

It is evident that the question of available transportation facilities—and by facilities both service and rates are meant—has been a large factor in the past in the establishment of industries at points which are not naturally well adapted for them. The ability of such industries to compete successfully with competitors nearer markets or raw materials is dependent, therefore, upon the continuance of rates and services which offset disadvantages of location. On the other hand, rates that attempt to place different districts more or less fortunately situated upon an equal basis tend to work an economic loss to the community. But rates of this kind have been in existence for a long time and must not be quickly changed. It is hoped that adjustments may be worked out so that this class of patrons will ultimately pay rates commensurate with the costs of performing the service, and that these changes may be reached in such a way as to have little effect upon the competitive relations of these patrons.

The essential steps of the cost analysis which was made for the Milwaukee Terminal District may be summarized as follows: A comparative study was made of the revenues and operating expenses of the railway for a period of years for the purpose of determining a period which would represent normal operating conditions. The year finally chosen was the calendar year 1912, and all figures are for this period. The movement of loaded cars only was considered and the cost of handling empty cars was thus spread over the whole business of the terminal.

From a detailed analysis of transportation movements in general, undertaken from various points of view, principles were derived which were applied to movements in the Milwaukee Terminal District. All movements were classified as "Through", "In", "Out" or "Terminal", and each of these four types was subdivided so that every possible movement could be studied. Altogether approximately 600 types of movements were considered and the following facts determined for each: (a) Times handled by road engine; (b) Miles handled by road engine; (c) Times handled by transfer engine; (d) Miles handled by transfer engine; (e) Times handled by switch engine; and (f) Miles handled by switch engine. To determine the mileage, it

was necessary to locate the center of gravity in districts and yards for inbound and outbound freight.

The next step was to ascertain the number of times each type of movement occurred during the year. The total number of cars handled was determined from the records of the Chicago, Milwaukee & St. Paul Railway Company and, by means of figures representing relative frequency, this total was distributed between the various movements.

The number of cars handled during the year in each movement having been found, the data previously compiled, showing the number of times handled and the number of miles by road, transfer, and switch locomotives, were weighted and the results shown in Table I obtained. The time normally used to complete a transaction was investigated and determined to be approximately as follows: Through movements, one day; In movements, three days; Out movements, three days; and Terminal movements, six days.

The final step in the cost analysis was the determination of operating expenses for the Milwaukee Terminal District for the calendar year 1912. These were derived in part with the aid of statements prepared by the railway company and checked by the Commission, and in part by means of special studies. They were then classified as freight and passenger, and the total freight expenses further apportioned with respect to whether they arose in connection with the handling of "Through", "In", "Out", or "Terminal" movements. The value of the physical plant was determined by the engineering staff of the Commission and the value apportioned to the various movements on a "use" basis. Taxes were apportioned on the basis of the value of physical plant used. The cost of handling the various types of movements having been determined (Table II), this cost was further separated into two classes of expenses, first, those varying with the length of haul and second, those varying with the number of times a car is handled. From the last analysis it appears that the latter type amounts to somewhat more than one-third of the total expense for terminal movements. Considering a case for illustration: The average haul of a terminal movement is, say, five miles, the average number of handlings, say, four. A particular movement was ten miles in length and required six handlings. The distance factor then is two, and the handling factor one and one-half, or weighted, the factor to be used is one and eight-tenths. Hence, if the average charge should be $6 for all terminal movements, this particular movement should be charged $10.80.

TABLE I.

TABLE SHOWING MILEAGE MADE AND NUMBER OF TIMES HANDLED BY ROAD, TRANSFER AND SWITCHING ENGINES, CLASSIFIED ACCORDING TO TYPES OF MOVEMENT.

Movement.	No of cars.	Per cent of total cars.	ROAD. Miles.	Per cent of total miles.	Times handled.	Per cent total times.	TRANSFER. Miles.	Per cent of total miles.	Times handled.	Per cent of total times.	SWITCHING. Miles.	Per cent of total miles.	Times handled.	Per cent of total times.
Through	278,381	33.044	2,332,821	56.83	516,667	56.47	128,423	6.24	64,068	9.75	168,912	21.91	304,538	26.27
		per car	8.37		1.85		.46		.24		.61		1.09	
Out	245,775	29,174	1,060,014	25.83	202,205	22.10	837,465	40.69	248,759	37.86	239,628	31.08	337,141	29.08
		per car	4.31		.82		3.41		1.01		.97		1.37	
In	244,874	29.067	711,719	17.34	196,098	21.43	836,777	40.65	256,678	39.97	272,115	35.29	404,352	34.88
		per car	2.90		.80		3.41		1.05		1.11		1.65	
Terminal	73,422	8,715					255,687	12.42	87,480	13.32	90,402	11.72	113,234	9.77
		per car					3.48		1.19		1.23		1.55	
Total	842,452	100.00	4,104,554	100.00	914,970	100.00	2,058,352	100.00	656,985	100.00	771,057	100.00	1,159,265	100.00

TABLE II.

ESTIMATE OF AVERAGE COST PER CAR FOR HANDLING IN MILWAUKEE TERMINAL DISTRICT.

Costs.	Milw. Term. Dist. incl. outside.	Per cent of total whole line.	Total freight.	Per cent of Milw. Term. Dist.	Through	Per cent of freig't.	Out.	Per cent of freig't.	In.	Per cent of freig't.	Termin-al.	Per cent of freig't.
Operating exp. excluding joint facilities	$3,247,330	6.73	$2,978,08[illegible]	91.71	$461,364	15.49	$1,061,641	35.65	$1,114,963	37.44	$340,114	11.42
Taxes 1913	176,303		154.8[illegible]	87.85	25,339	16.36	56,393	36.41	53,341	34.44	19,809	12.79
Hire of equipment			108,11[illegible]		13,742	12.71	36,382	33.65	36,252	33.53	21,743	20.11
Total cost excluding return			$3,241,08[illegible]		$500,445		$1,154,416		$1,204,556		$381,666	
Interest at 7 per cent			843,191		140,460		309,995		291,221		101,515	
Total cost including return			$4,084,274		$640,905		$1,464,411		$1,495,777		$483,181	
No. loaded cars handled			842,452		278,381		245,775		244,874		73,422	
Ave. cost per loaded car			$4.848		$2.302		$5.958		$6.108		$6.581	
Ave, cost per loaded car (revenue cars only)			$3.874		$2.340		$5.162		$6.312		$7.041	

TABLE III.

TERMINAL TARIFF BASED ON COSTS.

From \ To	Bay View.	Stowell.	Muskego.	Stock.	Reed.	Plankinton.	Shops.	Canal.	Air line.	Grand Ave.	Fowler.	North Ave.	West Allis.	North Milw.	Wauwatosa	Chestnut.
Bay View	.....	$3 71	$6 93	$8 26	$8 40	$8 54*	$9 03	$9 38*	$9 94	$10 15	$10 64	$11 90	$11 97	$14 98	$15 40	$17 99
Stowell	$3 85	2 24	4 20	5 53*	3 15	6 37	5 81	5 67	7 56	7 35	7 84	9 17	8 33	12 32	11 76	14 98
Muskego	6 93*	3 50	.....	3 99*	4 20*	4 83*	4 34	5 11	6 09	5 85*	6 30	7 63	7 21	10 71*	11 13	13 72*
Stock	8 05*	3 92*	3 99*	.....	4 69*	1 96	.....	5 39	5 53*	5 67*	5 39	8 96*	7 00	12 04*	10 43	14 98*
Reed	6 09	3 15	4 41	4 48	.....	5 39*	5 39	6 02	6 65	7 00	7 14	9 73	8 33	12 81	12 04	15 33
Plankinton	9 10*	5 60*	4 83	2 24*	6 51	.....	.....	3 85*	6 37	6 51	6 23	7 77	7 84*	10 85*	9 94	13 86
Shops	.....	4 90	4 97	.....	.....	.....	1 82	5 11	.....	.....	5 25	.....	5 60	.....	11 06	.....
Canal	10 08	6 58	5 81	4 76	6 30	5 67	1 82	1 82	6 37	6 58	6 09	7 77	7 91	10 85	8 33	13 86
Air line	11 13*	7 21*	6 86	6 37*	7 32	7 28*	7 14	7 91*	.....	8 68	8 89	10 64*	10 08	13 72	13 93	16 66
Grand Avenue	10 78*	7 35	6 51*	5 67*	7 00	6 53	4 34	6 65*	7 28*	.....	7 00	12 18*	7 14	15 26*	12 67	18 20
Fowler	10 71	9 38	6 44	5 81	7 07	6 65	5 39	6 51	6 93	6 93	1 82	12 04	8 26	15 19	12 53	18 06
North Avenue	14 42*	10 50	10 15	9 66*	10 71	10 50*	10 43	11 20	8 96*	11 97*	12 11	.....	13 30*	7 07	17 22	10 01
West Allis	12 18*	8 33*	7 98	7 42*	8 54	8 33*	8 26*	8 96	9 17	9 80*	9 94	11 69	.....	14 77*	.....	17 78
North Milwaukee	17 64*	13 72	13 37	12 88*	13 93	13 72*	13 65	14 42	12 25*	15 19	15 40	7 21	16 52*	.....	20 44	7 63
Wauwatosa	14 84	.....	10 57	10 08	11 06	.....	10 85	.....	9 38	.....	12 53	14 28	13 72	17 64	.....	20 37
Chestnut	20 37	16 45	16 10	.....	16 66	.....	16 03	.....	14 07	17 92	18 06	9 87	20 09	7 42	23 17	3 50
Main	8 75	.....	4 48	.....	5 18	.....	.....	.....	6 09	.....	5 95	.....	.....	.....	.....	15 54

*Inactive rates.

Table III shows the per car cost of handling cars in terminal movements in the Milwaukee Terminal District. The origin and destination of cars are indicated by the names of established yards and stations.

It is evident at once that if each movement be called upon to pay a rate exactly equal to the estimated average cost of performing the service, and including in such cost all indirect or overhead costs and dividends, many of the movements could never be made on account of the prohibitive rate. The carrier should be satisfied with a rate which, while not covering all the items upon which it is entitled to a return, will nevertheless pay all the direct costs and assume a share of the burden of indirect costs. This reasoning is in line with principles often applied in tariff making in general.

It should be noted in this connection that these movements require the use of properties the value of which, when compared with other railway property used and useful in the service of the public, is exceedingly high. On the other hand, it cannot be said that the nature of these movements is such as to place them very high with respect to their value to the shipper. The bulk of the movements consists in the transportation of raw materials or partly manufactured materials to places of ultimate production. These two considerations, on their nature more or less antagonistic, make it extremely difficult in cases like this, to apply the cost theory of rate making unalloyed.

Bearing in mind, however, all the considerations which the costs suggest, though modifying them by other elements arising out of business prudence and economic foresight, we have built up the scale of charges which is shown in Table IV. Since the paying load varies it was necessary to express the tariff in cents per hundredweight, with a minimum charge such that the expenses independent of weight will be met in each case.

TABLE IV.

TERMINAL TARIFF BASED ON WEIGHT AND DISTANCE.

MINIMUM WEIGHT PER CAR—55,000 LB.

Rate in cents per 100 lb.

From \ To	District I.	District II.	District III.	District IV.	District V.	District VI.
District I.....	1.0	1.0	1.3	1.6	1.3	1.3
" II.....	1.0	1.0	1.2	1.4	1.1	1.1
" III.....	1.3	1.2	1.0	1.0	1.2	1.2
" IV.....	1.6	1.4	1.0	1.0	1.5	1.5
" V.....	1.3	1.1	1.2	1.5	1.0	1.2
" VI.....	1.3	1.1	1.2	1.5	1.2	1.0

District I includes all industries south of Washington st., at present included in Bay View and Stowell districts.

District II includes all industries between Washington st. and West Chestnut st., at present included in the Reed st., Muskego ave., Fowler st., West Milwaukee and Grand ave. districts.

District III includes all industries between West Chestnut st. and Washington ave., at present included in the North ave. and North Milwaukee districts.

District IV includes all industries between Washington ave. and Prairie st., at present included in the Gibson and Chestnut st. districts.

District V includes all industries between Menomonee Valley joint spur and state fair grounds, at present included in the West Allis district.

District VI includes all industries between Grand ave. jct. and Wauwatosa on the Prairie du Chien division and also the following institutions at Kenyon: County Insane Asylum, County Waterworks, County Almshouse, County Hospital, County Hospital for the Insane, and Home for Dependent Children, all at present included in the Wauwatosa district.

For reasons already stated this Commission does not deem it wise to follow this schedule for the present. It is inserted here in order to indicate what the proper charge would be if the economic and traffic conditions mentioned before did not obtain. It should be borne in mind that these conditions have been fostered and encouraged in part by past acts of the carrier itself. The fact is, moreover, that line-haul rates in this state yield a high return to the road, and that therefore terminal rates, though they should be increased beyond the increase herein granted, can not be finally adjusted until final adjustment has first been made with respect to certain line-haul rates now under consideration. While the Commission does not turn its back upon the facts it cannot consent to increases which might be unreasonable at this time.

Taking into account the necessary return to the carrier and the competitive status of many industries, the Commission concludes that an industrial switching rate of 1 ct. per 100 lb., with a minimum weight of 50,000 lb. and 60,000 lb. per car would be as high a rate as could reasonably be put into effect at this time. The minimum weight of 50,000 lb. should be made to apply upon all cars at present paying a rate of $5 per car or less, and the

minimum weight of 60,000 lb. upon all cars at present paying a rate of $6 per car. A good deal of difficulty has been experienced in arriving at reliable figures as to the average loading per car for the various commodities subject to terminal movements. Under the present conditions the cars are not generally weighed. More evidence on this subject will become available after the new rates have become effective and the Commission will then, if necessary, undertake to modify its order.

It was argued in behalf of certain shippers that shippers owning their own switch engines and doing their own spotting and pulling of cars should be given a lower rate. This contention assumes that it is the duty of the common carrier to perform these services and that in the event of their being performed by the shipper himself, the latter is entitled to what in practice would really amount to a division of the rate.

It becomes necessary, therefore, to determine what are the reasonable limits of the services which railways render as common carriers and which may be said to be included in the reasonable rate.

In general, in the case of carload freight, the undertaking of transportation begins when the shipper applies to the proper agent for empty cars and names the place where the cars are to be put at his disposal. WYMAN, in his work on the law of Public Service Corporations, Vol. I. pp. 585–587, maintains in substance that the carrier's liability as bailee begins at the moment when he assumes possession of the goods with the obligation to transport and the right to transport immediately. Referring to the end of the undertaking of transportation the same writer, on page 919 of Vol. II of the same work, states the following general rule:

"According to what would seem to be the proper test common carriage should come to its end when the undertaking assumed has been performed. A common carrier, as such, undertakes only transportation to a certain place. When he has deposited the goods at that point on the route he has done all that he has professed, and it seems, therefore, that his exceptional liability as a common carrier should then terminate."

The real question which concerns us here is what facilities and services the carrier must provide under the law for the initial or final terminal handling.

European countries afford no criterion for judgment in this

matter because terminal and movement charges are there stated separately. The American system of rate making has been diametrically opposed to the European system. The law and custom in the matter are well summarized by JUDGE GROSSCUP in the case of the *Union Trust Co. v. Atchison, T. & S. F. R. Co.* 1894, 64 Fed. 992, 994.

"The freight [charge] demanded covers the entire service of of the carrier from depot to depot. It is in law the compensation, not only for the actual carriage, but also for the facilities furnished for loading and unloading. The service is a single one, and the compensation is likewise single. The law will not permit the charge for such single service to be divided. * * * This policy of the law is not because a particular shipper might not deal with the carrier as intelligently in the case of one method as in the other, but because the public is not so likely to deal intelligently with a series of items as with a single freight rate. * * * A single charge presents to him [the shipper] at once the whole problem. A series of charges might confuse him and leave uncertain what, in the end, the aggregate would be."

There is some conflict in the decisions upon the question whether the general tariff rate properly includes terminal delivery to the plant of the consignee. Thus in the case of *Associated Jobbers of Los Angeles v. A. T. & S. F. R. Co.* 1910, 18 I. C. C. R. 310, it was held by the interstate commerce commission that each spur track is in a real sense a railway terminal at which the carrier receives and delivers freight. It is a special, and generally in practice an exclusive, railway depot for the carload freight of a particular shipper. It is more than a convenience, it has become a necessity to the carload shipper. Accordingly, carriers having the line haul should deliver the traffic so hauled without additional charge to industries located on its tracks and within its switching limits. COMMISSIONER HARLAN, in a concurring opinion, used the following language (324, case cited):

"The general rate schedules of carriers have been adjusted on the theory that the rates ought to be fixed high enough to warrant carriers in including the spur track service without extra charge, and not on the theory that additional revenues would be available from that service."

The commerce court of the United States, upon appeal, reversed this decision of the interstate commerce commission. *Atchison, T. & S. F. R. Co. v. Interstate Commerce Com.* 1911,

188 Fed. 229. The court here said that the common law rule that carriers by land are bound to deliver goods to the consignee at his residence has never been applied to railway companies. They are "bound only to carry the goods to the depot or station to which they are destined and there hold or place them in a warehouse ready for delivery whenever the consignee or owner calls for them, after notifying the consignee or owner of their readiness to deliver." * * * "Transportation of cars and freight intended for interstate commerce to and from industrial plants located from one-fifth of a mile to seven miles from the main track of the carrier is not", the court held in substance, "the same service which the carrier performs when it delivers freight at its depot or team tracks, the carrier being bound to perform such industrial track service, in the absence of statute, only under an arrangement with the owner of the industrial plant, for which it may charge a reasonable compensation." * * * "Under the facts in this case", the court in substance concluded that "the general tariff rate for interstate commerce does not include delivery to an industrial plant of the consignee or the transportation of the cars from the industrial plant of the shipper to the carrier's yards or main line over a distance varying from one-fifth of a mile to seven miles, but the carrier performing such service is entitled to exact a reasonable charge therefor."

The extent of a carrier's obligation to deliver goods may be summarized as follows:

"The service assumed in common carriage does not necessarily go so far as to impose upon the common carrier the obligation of seeking out the consignee and offering to make delivery to him personally, any more than it imposes the duty to go to the consignor and get the goods from him. But personal delivery is professed in certain kinds of carriage, and in such businesses it is therefore owed. This distinction was marked in the early law by the difference between carriage by sea, where the most that the shipmaster could fairly be said to undertake was to deliver the goods at the wharf, and carriage by land, where the carrier was usually held to undertake personal delivery to the consignee. This distinction is marked in modern times by the difference between the railroad business as it is usually conducted, where delivery to the consignee is not undertaken beyond its own rails, and the express business, where facilities are usually provided for delivery to the addressee personally." (Wyman on Public Service Corporations, Vol. II, p. 93.)

The result of recent legislation and decisions upon the question of what constitutes delivery is, briefly stated, as follows:

"Generally speaking, the modern railway company does not deliver goods except at its established stations. But where there is no freight depot, giving the consignee access to a car upon a siding containing his freight may be equivalent. Where the company has agreed to deliver goods elsewhere or differently, it will become responsible to the extent of its special undertaking. * * * Moreover, the railroad company is generally bound to unload the goods from the cars before delivery can usually be said to have taken place. * * * and the existence of a customary mode of delivery may be sufficient to justify the carrier in delivering in a certain manner which would otherwise be unusual." (Wyman on Public Service Corporations, Vol. II, pp. 928–930.)

Though the facilities that need to be provided for the terminal handling of freight are as a rule of the same general kind, there is a class of commodities comprising by far the larger portion of the freight tonnage which requires special facilities to effect a delivery, namely the class of bulky freight. The carrier's legal duty with respect to bulky freight has been summarized as follows:

"The railroads owe unusual duties with respect to the delivery of bulky freight. When coal, ore, grain or oil are shipped in bulk in carload lots, as they generally are, the consignee may properly insist, if he has a private siding connected with his premises, or if there is a public siding adjoining his premises, that the cars shall be shunted to his premises; for only in this way can such bulky freight be conveniently unloaded. Moreover, if the shipment is of great bulk, such as quarried stone or heavy castings, the request is equally proper, since it is extremely disadvantageous to cart such freight through the streets. There is apparently no such obligation to the consignee of ordinary freight, however large his business with the railroad may be; even if he habitually receives freight in carload lots, it is not outrageous to make him go to the public sidings or the regular freight house for his goods. It should be said, however, that the terminal railways of various sorts usually undertake the delivery of all cars whatever they contain to the premises of the consignees, if they have a special switch or they have a siding adjacent. There are certain special instances which deserve special mention. It seems to be settled now in the *Stockyard Cases* * * * that the railroad may refuse to deliver carloads of cattle to the particular stockyards to which they are consigned, and instead force all consignees of cattle to come to a particular

stockyard, which it thus virtually designates as its cattle station. * * * In practically all cases where delivery at private sidings is conceded, it is held that when the car is placed upon the siding the liability of the carrier ceases.'' (Wyman on Public Service Corporations. Vol. II, pp. 930–932.)

The general rule upon the question of terminal facilities was stated by JUSTICE HARLAN in the case of the *Covington Stock Yards Co. v. Kieth,* 1891, 139 U. S. 128, 135, as follows:

''The carrier must at all times be in proper condition both to receive from the shipper and to deliver to the consignee, according to the nature of the property to be transported, as well as to the necessities of the respective localities in which it is received and delivered.''

Thus, while there appears to be a definite legal obligation on the part of the carrier to deliver carload freight over its own rails to a point as convenient as possible to the shipper's place of business, the shippers on their part, by installing private sidings, have made arrangements which virtually compel the carriers to deliver upon their own premises. This situation is generally true and has been so for some time. JOHNSON & HUEBNER in their work on ''Railroad Traffic and Rates'', Vol. II, p. 93, comment upon the situation in the following language:

''As far as practicable, every plant is connected with a railway by one or more spur tracks over which cars may be switched into and out of the establishments. These industry tracks enable large manufacturers to load and unload, within their own premises, most of the goods they ship and receive, and thus they make relatively little use of the railway company's freight stations. Small manufacturers, practically all persons and companies engaged in the mercantile trade, and the great army of irregular shippers are those who make most demands upon the service of freight stations.''

Upon examination of decisions in these matters, it was found to be impossible to derive anything like a general rule laid down by the courts as to what constitutes adequate terminal service. The determination in each case appears to have been made in view of the particular facts involved, thus rendering a general application of such determination difficult. The chief concern of the courts in all cases appears to have been, however, that fair competition shall be maintained and that there shall not be an unjust or unreasonable discrimination.

In view of the decisions quoted above and the statements of authority it would appear that transportation service should be paid for in a single rate and that this service includes, in the case of carload freight traffic, all the initial and final movements involved in spotting cars upon industry spurs and in handling to and from team tracks. This, it seems, is to be included under the provision that terminal facilities shall be reasonably adequate.

In the case of industrial railways, however, serving industries of large expanse it would be unreasonable to demand that cars shall be spotted at plants regardless of the length of haul beyond the carriers own tracks. To demand this service would be as unreasonable as to demand that the carrier should build and maintain all the trackage required to do such spotting. It is in this light that the interstate commerce commission's recent decision in the *Industrial Railways Case,* decided January 20, 1914, should be viewed. In this case it was held

"* * * that the service by line carriers in official classification territory beyond a reasonably convenient point of interchange, between their rails and the tracks of industries, is a shippers' service, a part of the industrial operations of the plant, and not a service of transportation and that the performance of such services by the line carriers without charge in addition to the rate, and the allowance paid by them therefor to industries, on their plant railways, for performing the service for themselves, are unlawful rebates—in fact and in effect—and give undue and unreasonable preferences and advantages to the industries so favored and work undue and unreasonable prejudice and disadvantage to shippers in the same line of business who do not receive any such allowances or the benefit of any such service."

In order to determine what the proper course would be, both in law and as a matter of equity, as well as to throw light generally upon the questions involved, especially from the carrier's point of view, an investigation was made as to the cost of the various modes of receiving and delivering both carload and less than carload freight. This investigation was directed primarily to a determination of fixed charges, interest and taxes, upon the properties directly involved, such as land, trackage, buildings, and paving. These costs per unit of service were determined separately for each of a large majority of the industries in the Milwaukee Terminal District. They were determined also for cars originating and terminating at team tracks, fruit house and

freight houses. The handling of cars at team tracks appears to involve the highest fixed expenses of the services investigated. The costs per car fluctuate considerably for the different districts, due primarily to two causes: first, variation in land values, as between the different districts, and second, variation in the density of traffic handled over the tracks. Considering total value of all team tracks, fixed charges amount to about $1.68 per car. Of this figure $1.48 or 88 per cent can be traced directly to land values and only 20 cts. or 12 per cent to track values. Similarly, the average cost in fixed charges per car for handling at industry spurs, for the districts as a whole, is 33 cts., of which 21 cts. or 64 per cent is due to investment in land and 12 cts. or 46 per cent to investment in track. In the case of cars handled at freight houses and at the fruit house, the average cost per car in fixed charges upon the investment in land and track only is 35 cts., of which 33 cts. or 94 per cent is for land and 2 cts. or 6 per cent for track. To this should be added an average cost of 11 cts. per car for fixed charges upon the value of buildings.

It was not possible to include in this study all the industry tracks, team tracks and freight houses because the record of cars handled was incomplete or entirely unavailable in many instances. A large proportion of the total business has, however, been included, thus affording a broad and fair basis for a determination of the facts.

We have attempted also to determine the average cost of moving cars between the classification yards and their ultimate destinations. These costs were found to be approximately the same with the exception of movements to freight houses, which were somewhat lower. However, it has not been the custom in terminal services thus far to recognize slight differences in the cost due to the minor variations in distances. We must conclude, therefore, that, as between the three services (industry track, team track and freight house), differences in costs appear primarily in the fixed charges upon the investment in what may be characterized as the *ultimate terminal properties* of a carrier. We are not unmindful of the fact that in the case of less than carload freight certain extra costs incident to the handling, recording and collection should be considered in addition.

Attention has already been directed to the fact that unit costs of delivery vary particularly with the number of cars handled, and that they vary in the inverse ratio. We have undertaken to

eliminate this variable factor by assuming the same number of cars handled per mile of track. Team track patrons at present represent the large class of irregular shippers. Inasmuch as delivery is made to this class under the least favorable conditions, the density of traffic obtaining at team tracks was accepted as the normal density. This calculation would tend to eliminate the difficulty referred to above and would show what the costs would be if the three services were of equal importance. The cost per car at team tracks were thus shown to be $1.68, at industry tracks 34 cts., and at freight houses $3.45. The figures show that spur track delivery is an economical means of delivery when compared with the other alternative methods open. Delivery at "house tracks" is necessarily expensive and can only be kept within bounds by handling as many cars as possible.

The following, therefore, are the important considerations which must be kept in mind in arriving at any conclusion in regard to the adjustment of rates for the three services:

Less than carload freight requires the loading and unloading of cars because the freight is given up in small quantities, and convenience in delivery and carriage demands that the handling be left to the railroad company. In addition less than carload freight requires storage and facilities for teaming. These requirements necessitate the construction and maintenance of warehouses, platforms, cranes and trucking facilities. They require further that approaches be paved and that freight houses be centrally located. The inevitable result is higher land value and a generally higher cost per unit for handling.

Carload traffic, when handled at team yards, requires first of all the central location of the yard in order to reduce the amount of drayage. Secondly, it requires additional space for teaming purposes, which may or may not be paved. The loading and unloading is performed by the shipper. These special requirements again result in a high cost and if the users of such facilities are few the cost per unit is relatively high. In the case of less than carload freight the increased cost of handling is recognized in the comparatively higher rating, though the cost of handling per unit may be no higher. Carload traffic handled at team tracks, however, enjoys the same carload rating as carload traffic handled at industry spurs. If distinctions in cost should be reflected in higher rates, there is sufficient reason for increasing the carload rate for team track users by the imposi-

tion of an additional arbitrary. Directly opposed to this arrangement, however, is the consideration, founded in public policy, that shippers of the same class should be treated alike. The imposition of an extra charge, when cumulated with the expense of carting goods from the team track to the industry, might prove a serious handicap in competition. If the carload rating should remain the same for both classes of shippers, it must be sufficiently high to cover these extra costs.

Carload traffic handled at industry spurs is delivered at the lowest cost per car. While the aggregate cost is considerable, it is borne by so many units that the cost for each unit is materially lower than for the other services. Moreover, the aggregate cost to the company is lessened by two factors: one is the payment by the shipper to the company of all, or a part of, the cost of installation of the track; and the second is the furnishing of the land, in whole or in part, upon which such tracks are laid. These factors have not always been present in the past, but they are becoming more and more important.

On the other hand, spur track delivery affords a large class of shippers a kind of convenience which is not necessarily implied in the contract of transportation. By the delivery at the industry track the shipper saves the expense of cartage; he has unobstructed access to the car so long as it is upon his siding. The carrier, on its part, secures a quicker release of equipment, and is at all times in a position where it may hold the patronage of the shipper. Moreover, the shippers have frequently been invited by the carrier to locate upon its tracks, the benefits being mutual. Under these circumstances it would seem to be unreasonable to ask that shippers be required either to go to the public team tracks or to pay an additional charge for spur track delivery.

The best solution of the difficulty appears to be to allow spur track delivery to continue under the present arrangement, including in such delivery the spotting of each car. For any service beyond this an additional charge per car should be made. Team track delivery should continue under the present arrangement without the imposition of an additional arbitrary.

It is in the light of the obligation devolving upon the carriers to deliver and spot cars that shippers who do their own spotting and switching ask for lower rates. Moreover, shippers who furnish their own sidetrack facilities often urge that, inasmuch as they relieve the public facilities from rendering a large amount

of terminal services, they should be granted something in the way of a concession in the rates.

It has been held in this matter that it is permissible for a railroad to make a lower rate to a shipper who furnishes a part of the facilities which the carrier must otherwise provide in order to serve them. (Beale & Wyman: Railway Rate Regulation—par. 782.) In the case of *Root v. Long Island R. Co.* 1889, 114 N. Y. 300, the question arose whether a provision in a contract providing for a rebate of 15 cts. per ton from the regular tariff rates as consideration for the use of certain terminal facilities was an unjust discrimination as a matter of law. It was held in that case that the point at issue was a question of fact and not of law, and that, since the discrimination was not unjust or unreasonable, it could stand.

A somewhat different holding upon this question can be had from the case of *State ex rel. v. C. N. & T. P. R. Co.* 1890, 47 Ohio State 130; 23 N. E. 928. Here it was held (p. 140) that "the duty of providing suitable facilities for its customers rests upon the railroad company, and if, instead of providing sufficient and suitable cars itself this is done by certain of its customers, even for their own convenience, yet the cars thus provided are to be regarded as part of the equipment of the road." In this case, therefore, the reduced rate was not allowed because of the danger that fair competition might thereby be destroyed.

If individual shippers should find it to be to their convenience to perform, by means of their own locomotives, spotting services which under other circumstances would have to be performed by the carrier, we see no reason why such convenience should carry with it a reduction in rates. It may be true under some circumstances that a shipper who furnishes cars or equipment or services should be allowed a reasonable compensation for such services or use of equipment. Nevertheless, it is a principle well recognized in law that such compensation must not be made as a cover for discrimination in rates. In applying the theory to the actual state of the business of the country, it will be found that a majority of the shippers have not a volume of business that is large enough, or establishments extensive enough, to warrant equipping themselves for such services. Such a theory, once recognized and generally applied, would place the smaller shipper at a ruinous disadvantage in competition. If, in granting a reduced rate to a shipper or a certain class of shippers, it

can be shown that the reduced rate is generally applicable, such reductions might escape the legal prohibition that there shall be no discrimination. In one of the early cases before the interstate commerce commission involving discrimination which was alleged to arise out of differences in rates on oil shipped in barrels and on oil in tank cars, COMMISSIONER COOLEY pointed out:

"The most important question that arises upon the assumptions made as the basis for this argument is whether there are in fact two different modes of transportation which are offered with their corresponding rates, equally and impartially to all shippers alike, and which it is possible for the class of persons usually engaged in the traffic freely to choose between. * * * It is obvious, we think, from the facts stated, that instead of the defendants offering two modes of transportation which are open to the acceptance of all, they offer only one. The other is offered on such terms that it can by possibility be accepted only by parties who can control a considerable capital, and who will supply for themselves an important part of the means of transportation, and also supply terminal facilities. The man of small means who adopts the method of transportation in barrels cannot be said to do so of choice when the failure of the carriers to supply for the other the customary means of transportation compels him to do so." *Rice v. Louisville & Nashville R. Co.* 1888, 1 I. C. C. R. 738–739.

Moreover, it would seem that the law of this state is at least implicit in prohibiting discrimination of the kind contemplated here. Sec. 1797–22.2 of the statutes provides that

" * * * it shall be unlawful for any railroad to demand, charge, collect or receive from any person, firm or corporation a less compensation for the transportation of property or for any service rendered or to be rendered by said railroad, in consideration of said person, firm or corporation furnishing any part of the facilities incident thereto; provided, nothing herein shall be construed as prohibiting any railroad from renting any facilities incident to transportation and paying a reasonable rental therefor."

Therefore, in view of the facts here presented, and the general state of industry in the Milwaukee Terminal District, we can not consent to reductions in rates which we feel would not operate alike upon all shippers.

At the time of the hearings informal complaint was made that the application of the Wisconsin distance tariff to terminal movements requiring the use of team tracks results in unreasonable

and excessive charges. Several formal complaints involving these services have also been filed. Insofar as the formal complaints involve the general question of reasonable rates for these services they will be dealt with in this opinion.

It is claimed by the carriers that movements within the terminal involving team track service do not differ materially from movements involving line hauls and that the Wisconsin distance tariff is properly applicable. In general it must be admitted that a movement within the city from the point of production to the point of consumption is a transportation movement the same as a movement for a similar distance would be in the country. It is also apparent that a railway is legally obligated to accept any commodities given up for transportation whether the movement is one between industries, between an industry and a team track or between two team tracks all within the same terminal. It is immaterial that this service is analagous to the cartage services performed by other transportation agencies. In the early days of transportation industry all movements of freight by rail were made in competition either with canal and lake traffic or cartage. The trend of the economics of freight transportation has always been from the costlier and less convenient medium to the cheaper and more convenient, and it would manifestly be against public policy for this Commission to do anything to reverse this trend. On the other hand, in the making of rates that shall be reasonable and fair to all concerned the Commission can and will recognize all valid distinctions as to the cost of performing the different services.

It is a fact too well known to require lengthy discussion that of all the facilities which a carrier devotes to the service of the public its terminal facilities are the most costly. Originally intended merely to complete the movement and effect the delivery of commodities, they are now also used in the assemblying, classifying and transferring of through freight. Moreover, the rapid increase in the tonnage of freight carried has sometimes taxed these facilities to the utmost. In demanding increased services, therefore, nothing should be asked which would tend to hinder a carrier in the proper performance of its ordinary services in connection with line-haul movements. While a carrier may have made mistakes in the past in the location and arrangement of its terminals and should not now refuse to render services which under other arrangements might easily have been performed, ex-

isting facts must not be lost sight of. It would therefore seem best than commodities which are ordinarily and conveniently hauled by dray, truck or other means of public cartage for cross-town deliveries should continue to be so handled.

That the state has an unquestioned right to demand that a common carrier perform team track service, even if it require the use of a connecting carrier's terminal facilities, was clearly established by the United States supreme court in the case of *Grand Trunk R. Co. v. Michigan R. R. Comm.* decided Dec. 8, 1913, 231 U. S. 457. The Grand Trunk system had published a tariff of switching charges which assessed rates higher by $3 per car than the ordinary industrial switching rate upon terminal movements involving the use of team tracks in shipments going to or coming from connecting lines within the switching limits of Detroit. Upon complaint, the Michigan commission ordered that a tariff be made effective and published removing this discrimination. This order eventually resulted in the filing of a tariff which withdrew all intrastate and interstate switching movements, and which was promptly suspended by the commission pending investigation. The carrier appealed to the district court which decided favorably to the commission. Appeal was finally taken to the supreme court of the United States. The position of the carrier was that switching service involving industry spurs and team tracks within the same terminal "are not in a proper sense transportation, but are essentially distinguishable therefrom." In its decision upholding the action of the commission, the supreme court says (231 U. S. 472):

"In the case at bar a shipper is contesting for the right, as a part of transportation. The order of the commission was a recognition of the right, and legally so. Considering the theater of the movements, the facilities for them are no more terminal or switching facilities than the depots, sidetracks and main lines are terminal facilities in a less densely populated district. A precise distinction between facilities can neither be expressed nor enforced. Transportation is the business of railroads and when that business may be regulated and to what extent regulated may depend upon circumstances. No inflexible principle of decision can be laid down."

Team track service is reserved especially for patrons doing a line-haul business and having no private sidetrack for loading and unloading. It may be said, therefore, that team track fa-

cilities are public facilities for the use of those who are naturally dependent upon railway transportation but are unable to get private track connection. We have also pointed out that delivery to this class of patrons is made at a relatively higher cost per car than to other carload shippers. If we therefore bear in mind that such terminal movements as involve service at team tracks are in fact alternative services which could be performed by other agencies, that they are offered by the carrier only in view of certain conveniences and savings arising therefrom to the shipper, it is plain that a primary consideration in the adjustment of the rate should be the cost of the service.

As shown by the testimony the average number of movements in terminal service involving the use of team tracks is eight cars per day. This is a rather unimportant proportion of the total number of movements handled and ought not seriously to interfere with the line-haul business handled at team tracks.

While it can undoubtedly be shown that the cost of handling such cars at team tracks is higher than the cost of handling cars at industries, we do not believe, considering the relative unimportance of these movements, that a rate higher than the general switching rate herein ordered would be reasonable at this time. It appears, further, that the convenience of the shipper unquestionably demands that such service be rendered.

It will not be possible at this time to render a decision with respect to the proposed increases in the reciprocal switching rates applying on traffic interchanged with connecting carriers. Not all of the carriers affected were present at the hearing when the matter of increase in general switching rates was being heard. That part of the suspended tariff which relates to reciprocal rates will, therefore, not be passed upon in these proceedings.

Upon the findings in this case it is held that the rates named in the following order are the reasonable rates under the circumstances.

IT IS ORDERED, That the Chicago, Milwaukee & St. Paul Railway Company cancel tariff G. F. D. 2543–A now in effect, and issue in its place a new tariff quoting a rate of 1 ct. per 100 lb. for the switching of carload freight at Milwaukee between industries on its lines in the Milwaukee Terminal District.

IT IS FURTHER ORDERED, That in all cases where the present industrial switching rates are $5 per car or less, the minimum

weight be 50,000 lb. per car, and in all cases where the present rate is $6 per car, the minimum weight be 60,000 lb. per car.

IT IS FURTHER ORDERED, That on shipments to or from connecting lines and to or from industries on the Chicago, Milwaukee & St. Paul Railway originating upon or destined to Chicago, Milwaukee & St. Paul Railway team tracks, the general industrial switching rate of 1 ct. per 100 lb. herein ordered be charged subject to the same minimum weight requirements as above set forth.

CUMBERLAND FRUIT PACKAGE COMPANY

vs.

CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY COMPANY.

Decided April 10, 1914.

The petitioner alleges that the rate of 6 cts. per cwt. exacted by the respondent for the transportation of nine carloads of logs from Grandview to Cumberland was excessive and asks for refund on the basis of a rate of $2 per 1,000 feet, minimum charge $10 per car. The rate last named was canceled prior to the time the shipments moved but was restored after the shipments moved. The respondent is willing to make refund.

Held: The rate complained of was unusual, illegal and exorbitant. Refund is ordered on the basis of a rate of $2.00 per 1,000 feet, minimum charge $10 per car, which would have been the reasonable rate for the service performed.

The petitioner is a corporation engaged in the manufacture of berry boxes, crates and baskets at Cumberland, Wis.

It alleges that on and between Nov. 25, 1913, and December 22, 1913, inclusive, it shipped nine carloads of logs from Grandview, Wis., to Cumberland, Wis., and was charged thereon the rate of 6 cts. per cwt., as provided in the respondent's tariff G. F. D. 2400–A; that said tariff also names a rate of $2 per 1,000 feet on logs, minimum charge of $10 per car from Dauby, Wis., to Stillwater, Minn., which rate is applicable to movements from Grandview to Cumberland, according to the provisions of said tariff relating to intermediate points; that on October 22, 1913, the above named rate was canceled by supplement 8 to said tariff; that the petitioner was not aware of the cancellation of said rate when the shipments in controversy were purchased; that on January 9, 1914, the respondent made effective its tariff G. F. D. 3819, establishing a rate of $2 per 1000 feet on logs, minimum charge $10 per car, from Grandview to Cumberland, Wis.; that the total freight paid on the said shipments amounted to $420.86, and if the same had been computed on a basis of $2 per 1000 feet, minimum charge $10 per car, the total charge would have amounted to $106.46, or $314.40 less than was actually exacted of the petitioner. The petitioner therefore prays

that the respondent be authorized to refund to it the said excessive charge, $314.40.

The respondent railway company admits all the allegations of the complaint, and alleges its readiness to make reparation as prayed if authorized to do so.

The time of the hearing was waived, and the claim was submitted upon the pleadings, papers and documents on file.

It is obvious that the charge exacted of the petitioner was the result of an error. In view of the intermediate clause in tariff 2400–A, the rate now effective would have been applicable to the shipments in question had such rate not been canceled. The cancellation of the tariff resulted in an excessive charge. The respondent rectified this by publishing its tariff G. F. D. 3819, restoring the rate of $2 per 1000 feet, minimum charge $10 per car, applicable to shipments of logs from Grandview to Cumberland.

Under the circumstances we find and determine that the rate of 6 cts. per cwt. exacted of the petitioner by the respondent on the above mentioned shipments was unusual, illegal and exorbitant, and that the reasonable charge that should have been in effect and applicable is the rate of $2 per 1000 feet, minimum charge of $10 per car.

NOW, THEREFORE, IT IS ORDERED, That the Chicago, St. Paul, Minneapolis & Omaha Railway Company be and the same is hereby authorized and directed to refund to the petitioner the sum of $314.40 on account of excessive charge on the abovementioned shipments.

M. H. SPRAGUE LUMBER COMPANY
vs.
CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY COMPANY.

Decided April 10, 1914.

The petitioner alleges that the rate of 3⅛ cts. per cwt. exacted by the respondent for the transportation of four carloads of logs from Bayfield to Washburn was exorbitant and asks for refund on the basis of a rate of 1 ct. per cwt., minimum charge $5 per car, which was in effect at the time the shipments in question moved for shipments from Bayfield to Ashland originating on the Bayfield Transfer Ry. The respondent is willing to make refund.

Held: The charge complained of was unusual and exorbitant. Refund is ordered on the basis of a rate of 1 ct. per cwt., minimum charge $5 per car, which would have been the reasonable rate for the service performed.

The petitioner is a corporation engaged in the manufacture of lumber, lath and shingles at Washburn, Wis.

It alleges that on and between December 15 and 22, 1913, inclusive, it shipped four carloads of logs over the respondent's line from Bayfield, Wis., to Washburn, Wis., on which it was charged a rate of 3⅛ cts. per cwt., the lumber rate established in the respondent's tariff G. F. D. 2400–A from Bayfield to Mason, Wis.; that Washburn is intermediate between Bayfield and Mason, Wis.; that at the time of such movement there was in effect a rate of 1 ct. per cwt., minimum charge $5 per car, applicable to shipments of logs from Bayfield to Ashland, Wis., when originating at stations on the Bayfield Transfer Railway; that the four cars referred to above originated on the Bayfield Transfer Railway, and under the circumstances the 1 ct. rate would not apply at intermediate points; that the rate of 1 ct. per cwt. into Ashland is subject to shipment of product of logs over the respondent's railway; and that, therefore, any rate in excess of 1 ct. per cwt. is exorbitant; that if the charges had been based upon a rate of 1 ct. per cwt., minimum charge of $5 per car, the total amount of the charges would have been $20; and that the charge actually exacted of the petitioner on said shipments was

$56.57. The petitioner therefore prays that the respondent be authorized and directed to refund to it the sum of $36.57.

The respondent railway company, answering the petition, admits the allegations thereof, and is willing to make the reparation asked, if authorized to do so.

The time of hearing was waived, and the claim submitted upon the papers, pleadings and documents on file.

In view of the situation disclosed upon the investigation, it is apparent that the rate exacted of the petitioner on the shipments in question was unjustly discriminatory. A rate in excess of that in effect from Bayfield to Ashland could not be justified. This is evidently conceded by the respondent.

We find and determine that the charge of 3⅛ cts. per cwt., exacted of the petitioner on the aforesaid shipments of logs, was unusual and exorbitant and that the reasonable rate that should have been exacted is the rate of 1 ct. per cwt., with a minimum charge of $5 per car. As the cars in question were all subject to the minimum charge, the excess charge is, as alleged, $36.57.

NOW, THEREFORE, IT IS ORDERED, That the Chicago, St. Paul, Minneapolis & Omaha Railway Company be and the same is hereby authorized and directed to refund to the petitioner the the said sum of $36.57.

TOWN OF VAUGHN
vs.
HURLEY WATER COMPANY.

Submitted Oct. 1, 1913. Decided April 10, 1914.

The petitioner alleges that the respondent's rates for water are unreasonable and exorbitant and that the respondent's service is inadequate both as to the pressure maintained for fire fighting and as to the quality of the water supplied for domestic use. The respondent renders service in Ironwood, Michigan, as well as in Hurley and its pumping plant is located in Ironwood. A valuation was made of the physical property devoted to the service of Hurley, the property in joint use being apportioned between Hurley and Ironwood. It is impossible to accurately determine the amount to be allowed for going value, as the present owners have been in control of the plant for but a little more than two years and are therefore in no position to show complete financial records of its operation. It appears, however, that a total valuation of from $37,000 to $38,000 is about correct. The revenues and expenses were investigated and the expenses apportioned between the two communities. The expenses for Hurley were analyzed and apportioned as closely as possible in the absence of complete data between capacity expenses and output and consumer expenses and between fire and general service.

The alleged fact that the respondent's rates are in strict accordance with the rates provided in the contract with the town of Vaughn under which the respondent constructed its plant and has since maintained and operated it, and the fact that the respondent has never elected to come under the indeterminate permit provisions of the Public Utilities Law, are immaterial, for the respondent has become subject to these provisions without voluntary election on its part.

The Commission does not recommend complete metering in this case, but a gradual extension of the meter system is undoubtedly desirable and the meter rates should be so adjusted that with the extension of the meter system they will be suitable for the changed conditions so far as it is possible to secure this result.

Under the flat rates now in effect there appear to be a number of unjust discriminations due to failure to take into account the number of rooms and the number and kinds of fixtures in determining charges for service to particular consumers under the schedule. There may be something to be said against a charge based on the number of rooms but the number of rooms is apparently one of the elements which should enter into a flat rate schedule and periodic inspections should be made of consumers' fixtures for the purpose of keeping informed as to the number and kinds of fixtures in each place supplied with water service.

Held: 1. With respect to the complaint as to fire protection service, the evidence does not clearly show that the respondent was at fault in the cases of the fires which gave rise to the complaint, but, to avoid a repetition of the difficulties met, both the respondent and the community might well have their own independent pressure recording gages connected by special service pipes to the Hurley mains.

2. Inasmuch as the installation of a purification plant has noticeably improved the quality of the water supplied for domestic use and inasmuch as there is no evidence that laboratory or other additional facilities are urgently needed, an order for the installation of such additional facilities is not advisable at this time.

3. The present schedule of rates should be abandoned and a new schedule adopted which will eliminate certain unjust discriminations and result generally in a marked reduction in charges.

The respondent is ordered: (1) to be prepared at all times to meet the reasonable fire service demands of the village of Hurley, to furnish the necessary number of hose streams under adequate pressure at the hydrants, and, for the purpose of showing the pressure maintained at any and all times, to install and keep in service at a central location on the Hurley pipe system a suitable pressure recording gage, the original daily records made by the gage to be filed and preserved for future ready reference; and (2) to put into effect a prescribed schedule of rates providing a charge for municipal service and meter and flat rates for commercial service. Sixty days is deemed sufficient time within which to comply with the section of the order which relates to service.

A petition dated May 22, 1913, was filed with the Commission on behalf of the town of Vaughn, Iron county, by its duly authorized officers, the chairman and clerk. The petitioner alleges that the schedule of rates charged by the Hurley Water Company is unreasonable and exorbitant and that the service furnished by the company is inadequate, and prays for an order commanding the company to desist from charging excessive rates and to establish such rates as the Commission may find reasonable and to improve its service in such manner as the Commission may find reasonable.

The answer of the respondent was filed at the hearing held in the office of the Commission on October 1, 1913. In its answer the respondent contends:

That it has never elected to come under the provisions of ch. 499 of the laws of Wisconsin for the year 1907 or the acts amendatory thereof;

That, on October 14, 1890, it entered into a contract with the town of Vaughn, which contract provided for the construction, maintenance and operation of water works in the unincorporated village of Hurley, and for a schedule of rates to be charged to the village of Hurley and to its inhabitants for water;

That the company's existing rates are in strict accordance with the rates provided in this contract;

That the contract is still in force;

That the rates are reasonable and fair, and that the service furnished has been at all times, and now is, adequate to the demands of the people of the town of Vaughn.

Hearing was held in the office of the Commission, October 1, 1913. The town of Vaughn was represented by *M. Lambrix,* chairman of the town board, the Hurley Water Company by *A. W. Sanborn.*

Existing Rates.

The company's present rate schedule, against which complaint is made, is as follows:

Public Service
Hydrant rentals: 44 hydrants, each $100 per year
Street sprinkling: no charge
Commercial Service
Meter Rates

First 20,000 gals. per month	40 cts.	per	1,000 gals.
All over 20,000 " "	10 "		1,000 "
Mines and Railroads:			
For consumption under 550,000 gals. per month			
First 20,000 gals.	40 cts.	per	1,000 gals.
All over 20,000 "	10 "		1,000 "
For consumption of 550,000 to 900,000 gals. per month			
First 20,000 gals.	40 cts.	per	1,000 gals.
All over 20,000 "	9 "		1,000 "
Over 900,000 gals	8 cts.	flat	

Flat Rates

Residence		
Single faucet per family	$8.00	per year
Faucet and bath	13.00	"
Faucet, bath and toilet	20.00	"
Sprinkling per season	5.00	
Commercial		
Faucet	8.00	"
Faucet, wash bowl and toilet	15.00	"

Commission's Jurisdiction.

The question of the jurisdiction of the Commission in this case was not specifically raised, yet it seems to have been implied in the respondent's formal answer to the petition and also in certain opening statements made on behalf of the company at the hearing.

Section 1797*m*—77 of the statutes provides:

"Every license, permit or franchise granted prior to July 11, 1907, by the state or by the common council, the board of alder-

men, the board of trustees, the town or village board, or any other governing body of any town, village, or city, to any corporation, company, individual, association of individuals, their lessees, trustees, or receivers appointed by any court whatsoever, authorizing and empowering such grantee or grantees to own, operate, manage, or control any plant or equipment, or any part of a plant or equipment within this state, for the conveyance of telephone messages, or for the production, transmission, delivery, or furnishing of heat, light, water, or power, either directly or indirectly, to or for the public, is so altered and amended as to constitute and to be an 'indeterminate permit' within the terms and meaning of section 1797*m*—1, to 1797*m*—108, inclusive, of the statutes of 1898, and subject to all the terms, provisions, conditions, and limitations of said sections 1797*m*—1 to 1797*m*—108, inclusive, and shall have the same force and effect as a license, permit or franchise granted after July 11, 1907, to any public utility embraced in and subject to the provisions of said sections 1797*m*—1 to 1797*m*—108, inclusive, except as provided in section 1797*m*—80."

The instrument referred to by the respondent as its contract with the town of Vaughn is apparently nothing more or less than its franchise to build, own and operate a water utility in and for the unincorporated village of Hurley, and as a franchise it has been modified by legislative enactment and has become an indeterminate permit. The company has, without voluntary election so to do, become subject to the provisions of ch. 499 of the laws of 1907, known as the Public Utilities Law, and acts amendatory thereof and supplementary thereto. The fact that the company has not voluntarily elected to come under the indeterminate permit provision of the Utilities Law is deemed to be of no material effect.

Valuation of Property.

An estimate of the cost of reproduction new and the present value of the physical property of the Hurley Water Company has been prepared by the Commission. On the date of the hearing the valuation had not been completed to the point of having typewritten copies available to the parties in the case. The totals of the somewhat hastily assembled figures were read into the record of the hearing with the understanding that they were subject to some modification, particularly as to Hurley's proportion of the pumping and purification plant which serves both Ironwood, Mich., and Hurley, Wis. The original pumping

plant was on the Wisconsin side of the state line but it was later moved across the river into Michigan. The service of Hurley obviously requires either a portion of a joint plant or an entirely independent plant. The combination of the service of both communities into the business of a single pumping plant should not work a greater hardship upon either in the matter of rates than would occur in the case of separate and independent plants. This is a proposition to be kept in view in determining the Hurley proportion of the joint features of the property located in Ironwood. Other Ironwood features, those having no part in the water service of Hurley, are of no direct consequence in this case and will be omitted.

The revised valuation of the property devoted to Hurley service is as follows:

	Cost new.	Present value.
A. Land	$300	$300
B. Transmission and distribution	21,722	20,130
C. Buildings and miscellaneous structures	8,690	7,149
D. Plant equipment	2,903	1,364
E. General equipment	70	35
Total	$33,685	$28,978
Add 15 per cent (see note below)	5,053	4,347
Total	$38,738	$33,325
F. Paving	.....	.....
H. Materials and supplies	100	100
Total	$38,838	$33,425

NOTE:— Addition of 15 per cent to cover engineering, superintendence, interest during construction, contingencies, etc,

No other evidence as to the value of the property was offered, and it was stated on behalf of the company that "the valuation of the Commission puts on we are willing to take."

By way of explaining the amount charged to Hurley of the values of joint property in Ironwood, the following report submitted to the Commission's engineers is presented.

APPORTIONMENT OF JOINT PROPERTY.

"A single pumping station, located on the Michigan side of the Montreal river, serves both the city of Ironwood and the unincorporated village of Hurley. The plant includes a water purification plant, consisting of two sedimentation basins, three gravity type rapid sand filters, a filtered water well and accessory features, such as alum and hypochlorite tanks and feeding de-

vices, piping, etc. The water is delivered to the settling basins by a single stage, electrically driven turbine pump, which takes it from an 18″ diameter wooden intake pipe. This intake has a length of about 2,500 feet and extends upstream from the plant to a point just above a small dam on the Montreal river. There is also in reserve a duplex, direct acting, low service steam pump, connected to the intake and to the settling basins.

"The high service pumping equipment consists of an electrically driven 3 stage turbine pump, and two horizontal, compound, duplex, direct acting Deane steam pumps, built in 1891. The latter have generally been used only in case of fire since the installation of the 3 stage turbine pump in 1908. Steam pressure is maintained continuously in one or the other of the two 75 h. p. steam boilers, for emergency use.

"Pumping is done to two duplicate standpipes 30 feet in diameter and 50 feet high, one in Ironwood and one in Hurley. The pipe connections to both standpipes are equipped with electro-hydraulically operated gate valves which are closed on receipt of fire alarms so as to permit the furnishing of higher than standpipe pressure.

"The pumping station was originally located on the Wisconsin side of the river, in Hurley. Between that station and the main street (Silver street) in Hurley there appears to have been approximately 1,300 feet of 8″ delivery main. At the end of that pipe line one main extended west on Silver street and south on 5th avenue to the standpipe as the main artery of the Hurley pipe system and another east to Ironwood. Hurley then had no share or interest in any pipe east of the river, and only a part interest in the pumping plant. There seems to be a serious question as to whether or not the movement of the plant from Hurley to Ironwood should result in charging the service of the former with a portion of the cost of mains in the latter community. At first blush it would appear that such should not be the result, but there are certain considerations to be noted, which seem to put a different light on the matter.

"The original pumping plant was considerably farther downstream than the present plant. It probably took its water from the stream at a point opposite the old plant, and applied no purification treatment worthy of the name. The river receives the discharge of the mine drainage, if not sewage, between the two sites. This greatly increases the turbidity of the water below and the difficulty in clarifying and purifying it. The effect of the mine drainage has been found to extend farther upstream than the present water works station, by backing up from the mine drainage outlets. The taking of the water supply from above the dam, if taken from the river at all, appears to have been a very desirable if not essential step in the provision of a suitable public supply.

"What the original location saved to Hurley in pressure mains it would lose in suction or gravity flow pipe from the dam. It is therefore considered reasonable and proper to apportion to Hurley service a part of the cost of the existing intake and 12" delivery main in Ironwood as well as a part of the cost of the pumping plant and purification works. In doing this any one of several different bases may reasonably be considered, all of which give materially different results.

"The distribution of total population, which is possibly a fair criterion of the distribution of total annual pumpage, would give to Hurley from 10 to 11 per cent of the joint property on the Michigan side.

"Earnings in Hurley and Ironwood separately for the year ending June 30, 1913, would, according to the company's showing, give to Hurley approximately 23.8 per cent of such property.

"The relative capacities of pipe lines, pumping equipment, etc., required for each community separately would, when the fire demands are considered, probably give to Hurley about 30 per cent.

"The relative costs of independent plants would throw a still larger proportion to the Wisconsin community, apparently about 40 per cent.

"The number of consumers on each side is still another basis entitled to consideration. The company reports 324 private consumers of all classes in Wisconsin and 1,567 in Michigan. This basis would give Hurley 17.1 per cent of the joint property in Ironwood.

"Considering the fact that other reasonable bases would charge Hurley with a much smaller proportion, it is very questionable whether the relative cost or any other single basis should be used exclusively in determining how much of the pumping plant and Ironwood pipe line values should be charged to the service of Hurley.

"It is doubtless a well known fact that Ironwood is not only a decidedly larger but a more prosperous community. It is not unlikely that it has a somewhat larger per capita consumption of water than Hurley, due in part to a larger proportion of large consumers, and possibly better development of business.

"When all these aspects of the matter are considered it is very doubtful whether even as much as 20 per cent of the value of joint property in Ironwood is fairly chargeable to Hurley service, yet that proportion is deemed fair and has been used in the valuation and apportionment.

"The amount of the property value thus found to be chargeable to Hurley, when compared on the per capita basis, represents relatively more than double that of the whole amount of property value considered as chargeable to Ironwood. There appear to be no census statistics available for the population of Hurley alone, it being a portion of the town of Vaughn. The entire

town was given a population of 2,449 by the census of 1910. The village of Hurley is locally considered as having about 1,600 inhabitants. On that estimate the Hurley portion of the water works property is considered to represent a cost new of about $24 per capita as against a corresponding value of very close to $10 for the Ironwood portion.

"Valuations made by this staff of several village water plants in Wisconsin where populations range from 500 to 2,500 show per capita investments of from $10 to $23, averaging around $18.

"These considerations tend to show that the property found to be chargeable to Hurley has not been too small. On the contrary, there is a serious question as to whether or not it might not well be even less."

From the foregoing report it appears that the determination of the amount of investment in plant equipment to be supported by revenues from Hurley is as much a matter of judgment as it is of mathematical calculation. As there may be some who will consider that the items in question have not been properly apportioned between the two communities it is pointed out that the amount of the error, if any, affects only a relatively small part of the total cost of service in Hurley. The operating expenses are not affected thereby, so that the percentage of any such total error will be still less.

No evidence as to the value of the property, aside from the physical valuation prepared by the Commission, was offered at the hearing. The estimated cost of reproduction new of the Hurley property, including 20 per cent of the joint property in Ironwood, is $38,638; its present or depreciated value is shown as $33,425.

The above figures differ somewhat from the preliminary estimates read into the record of the hearing. The difference is due in part to a different division of certain items between Ironwood and Hurley and in part to certain corrections subsequently found to be necessary in the statement of the sizes and lengths of mains in Hurley.

DEPRECIATION.

The estimate of present value is $33,425 for the portion of the property concerned in this case. The difference between this estimate and the estimate of the cost of reproduction new is the amount of depreciation considered to have accrued to the several features of the plant to date, and amounts to $5,413. A

part of this sum has been accruing for twenty-three years, according to testimony relative to the history of the utility. The depreciation on some other items has been the result of but a very few years of service.

On the basis of reasonable assumptions as to the normal life of each part, the fair annual depreciation charge of a water utility rarely exceeds one per cent, and usually is somewhat less when the amounts appropriated out of earnings are made to earn some reasonable rate of return, as is feasible and proper. In those cases where the larger proportions of the values are in very long lived structures, or those cases showing the greatest composite life of plant, the fair annual depreciation charges are as low as one-half of one per cent. In this case the requirements will be somewhat nearer the upper limit than the lower one.

In the operating expenses, as apportioned by the company to Hurley, there was charged to depreciation $2,359.30 for the year ending June 30, 1912, and $4,046.00 for the year following, making a total for two years of $6,405.30. This is approximately 118.3 per cent of the Commission's estimate of total depreciation accrued to date. The totals so charged by the company for its entire water works property in the two years were $10,000 and $17,000, respectively. These amounts are unquestionably much greater than those for which equitable rates must provide.

Development Costs.

The fact that the property in this case has been in the hands of the present owners but a little more than two years appears to leave them in no position to show the complete financial records of its operation. It is therefore impossible to accurately ascertain the cost of building up the business, or what is usually termed going value.

That the plant has an intangible element of value as a going concern, and an earning value through a developed business, is deemed sufficiently obvious in the light of the facts peculiar to this case and in the light of what has been said on this subject in previous decisions. The lack of complete evidence renders the final determination of value difficult, but it appears that a valuation of from $37,000 to $38,000 is about correct.

Public Service Proportion.

It appears that the public service, or municipal hydrant service, in this case has a large interest in substantially all parts of the property charged against Hurley. It has the entire interest in the fire hydrants and their connections to the mains. In general, the fire service proportion of water works investments in small communities such as Hurley is greater than the corresponding proportion in larger plants, and is usually more than half of the total property.

The public, or fire hydrant, service proportion is determined upon a consideration of each part of the plant with respect to the relative capacities and costs of similar features in hypothetical separate plants for public and private service. In this case 53 per cent of the investment is considered chargeable to fire protection, and 47 per cent to the general service.

Operating Expenses.

The records of operation for but two full years are before us, these being in the annual reports of the company for the fiscal years ending June 30, 1912, and June 30, 1913.

Earnings from Hurley and Ironwood are separately entered in the income accounts kept by the company, as they should and must be. The relative earnings from the two communities have been the company's basis of apportioning its operating expenses between them, in making its annual financial reports to this Commission. This may be a reasonable basis but possibly not the only feasible one or the best one.

Pumping Expenses. These must necessarily be apportioned on the basis of approximate ratios made as nearly correct as present information will permit, as it is impossible to determine with the company's present facilities how much of the total water pumped enters the Hurley system, or whether or not any water which once enters Hurley afterward flows back into Ironwood. The supplies for Hurley and Ironwood are pumped through the same delivery mains, and by the same pumping equipment. An apportionment of pumping expenses between the two localities served probably ought to take into consideration the demands made by the respective localities, but because of the practically complete lack of data relative to actual de-

mands of the two localities, the total pumpage has been used as a basis of apportionment. Although the proportion of the total pumpage which is hereinafter considered as Hurley's proportion may not be very accurate, its determination is guided by a consideration of all the known facts which form any indication of the truth. Were all consumers in both places supplied through well-maintained meters the situation would be much less uncertain. Most of the consumers, however, are served on a flat rate basis.

The amount of the pumping expenses, when compared on the "per million gallons pumped" basis, with those of other plants having comparable outputs, due allowance being made for difference in conditions, appears to be reasonable and proper. The amount of water pumped by this plant in a day or a year is but crudely estimated and the estimates may be materially in error, thus affecting the unit costs of pumping. The water is all pumped twice, once from the intake to the settling basins above the filters and again from the clear water well or reservoir to the standpipes and distributing systems. The second pumping is done against considerably higher pressure than is the case in several other water plants, a fact which would tend to make the cost per million gallons necessarily greater than at these other plants.

In consideration of the fact that only about 10¼ per cent of the total population of both communities and only about 17.1 per cent of the whole number of consumers are in Hurley it is difficult to see that anything like the proportion of total pumping expense charged by the company to the village rightfully belongs to it.

Distribution Expense. It would doubtless be practicable, if not desirable, for the company to keep its expenditures for distribution in Hurley separate from those in Ironwood. This, however, appears to be the only class of expenses which can be kept separate, and they form but a small part of the total cost of service. In apportioning the gross amount of distribution expense between the two places it is proper to consider other methods than those applied in dividing other classes or groups of expenses. For example, the relative mileages of mains and relative investments in the Ironwood and Hurley systems may well receive consideration as reasonable bases for apportioning this class of expenses.

Including in both cases mains of all sizes, Hurley appears to have 19,466 lin. ft. or 3.69 miles of mains, while Ironwood has 87,238 lin. ft. or 16.51 miles. The former is considered to represent a cost new of $18,640 and the latter a cost new of $74,424. These figures would give Hurley 18.26 per cent on the mileage basis and 19.85 per cent on that of cost. The above figures are all inclusive of Hurley's proportion (20 per cent) of the transmission main in Ironwood. The company has charged Hurley with nearly 24 per cent of total expense on the basis of relative earnings in the two places.

Commercial Expenses. This is a class of expenses which are somewhat dependent upon, and much more nearly proportional to, the number of consumers than to any other one condition or circumstance. If apportioned on this basis the company's commercial expenses are chargeable 17.1 per cent to Hurley and 82.9 per cent to Ironwood.

General and Undistributed Expenses. Probably the most logical and equitable treatment of these expenses is to divide them between the two communities in the same ratio as the sum of the previous classes are divided. The nature of these costs is such that no single basis considered in apportioning the pumping, distribution and commercial expenses seems properly applicable to them.

Taxes. The 1912 and 1913 annual reports of the company to the Commission show $32.59 and $300.79 for the respective total yearly taxes paid by the company. Of these amounts $7.69 and $296.06 are charged to the business in Hurley. In 1912 the tax item is designated on income. It is difficult to see why 98.43 per cent of the total taxes for 1913 should have been charged to the Hurley business, but even that amount is far less than is considered equitable. It is understood that under the terms of the original franchises the utility was exempted from local taxation. The legality of such an exemption is a serious question.

Other property in Hurley appears to be paying about 4 per cent of its value in taxes. In the future the water plant in this case will doubtless be required to pay taxes in the same way, and provision must accordingly be made for that expense in the rates.

Required Earnings.

In view of the evidence as to the value of the property devoted to the service of Hurley, the past operating expenses and

the proportions thereof which are fairly chargeable to Hurley, the equitable amounts which should be obtained from that community under present conditions are considered to be as follows:

Pumping and purification	$1,650
Distribution	340
Commercial	365
General and undistributed	505
Interest, taxes and depreciation	4,000
Total	$6,860

Inasmuch as any apportionment of expenses between the municipalities supplied must be to some extent an approximation, no attempt has been made to state the amounts more closely than in round numbers. It is believed, however, that the foregoing statement fairly shows the expense which should be charged to Hurley. The allowance of $4,000 for interest, depreciation, and taxes is sufficient to provide for depreciation at about 1 per cent of the cost new of the property and interest at about 7 per cent of the fair value at which the property should be included for the purposes of this case and to provide about $1,000 per year for taxes, which is not far from what the allowance apparently should be. Taxes have been provided for here because the utility will undoubtedly be required to pay such taxes in the future. The total of $6,860 charged to Hurley represents our judgment as to what should be charged to that branch of the business, although a division of some of the items on any exact basis has been practically impossible.

Because of the fact that it has not been practicable to determine the details of expense chargeable to Hurley beyond the primary expense groupings, the apportionment of these expenses between capacity and output expenses cannot be made with the accuracy which is to be desired, but such analysis of these expenses as can be made indicates that about $1,132 should be treated as capacity expense and the remainder as output and consumer expense. This does not include any part of the allowance for interest, taxes, and depreciation.

Of the $4,000 of taxes, interest, and depreciation 53 per cent, or $2,120, is chargeable to fire protection upon the basis of the apportionment of the property. To this should be added the proportion of the capacity expense which should be borne by the fire service. In the absence of definite data relative to the demands of the fire and general services the apportionment of ca-

pacity expenses must be largely a matter of estimate, guided by conditions which have been found in other places. It appears that a small part of the consumer expenses, sufficient to cover the cost of maintaining hydrants, and something over half of the capacity expenses should be charged to fire protection, or a total of very nearly $2,800 per year.

This indicates that a total of about $4,060 per year should be obtained from the general service furnished by the utility.

Having determined the cost of the general service furnished by the utility, the next step is to secure such a division of these costs as will result in a properly adjusted rate schedule.

According to the consumer cards submitted by the utility, there were, at the time these cards were submitted, 341 flat rate users. That is, the books of the company showed 341 consumers, although the consumer cards indicate that 399 flat rate users, which means 399 premises having distinct uses, were being supplied. In addition, the cards submitted showed nine flat rate users who were not receiving service at the time in question. As there will probably always be a limited number of patrons who will have temporarily discontinued the use of water for one reason or another, it is considered proper to exclude these consumers from our calculations. The records submitted by the company also showed a total of nine consumers supplied on a meter basis, although in some instances the records do not appear to cover a full year.

In this case the flat rates now and heretofore in effect are on the fixture basis, while in some other cases they depend in whole or in part upon the number of rooms or the number of occupants of the premises. The schedule in this case did not provide extra charges for more than certain specified numbers of fixtures nor does it appear to have made any distinction between consumers with and consumers without sewer or cesspool connections. Consumers having such connections, however, will, in general, undoubtedly use more water than those not having them.

Although the schedule did not provide for it, a uniform charge of $50 per annum for service to saloons appears to have been made and collected, regardless of the numbers and kinds of openings supplied in such premises.

Following is a summary of the statistics of flat rate users as submitted by the utility:

	Hose.	Faucets.	Baths.	Basins.	Closets.	Sewer.	Cellar.	Rooms.	Charge.	No. of premises.	No. of consumers.
Residence ..	15	150	90	185	126	179	67	1,246	$2,719	179	179
"	....	1	....	45	2	....	....	257	390	47	47
Residence 2	....	3	2	28	6	12	2	160	308	16	32
" 3	....	....	....	3	....	1	....	10	24	1	3
" 4	....	1	....	4	1	1	1	14	71	2	8
" 5	....	....	....	6	....	1	....	31	80	2	10
" 6	....	2	....	....	....	1	....	24	48	1	6
" 7	....	....	....	7	1	1	....	28	56	1	7
Saloons	....	109	4	54	64	54	20	357	2,700	54	54
Saloon and boarding house	....	2	1	2	2	1	1	8	50	1	2
Stores	....	5	....	13	11	17	7	47	209	17	17
Lodges	....	....	....	2	2	2	1	3	30	2	2
Store and residence (1)	....	4	2	11	11	8	3	42	170	8	16
Store and residence (2)	....	....	....	5	3	1	1	.....	45	1	3
Store and office	....	....	....	2	1	1	1	3	23	1	2
Saloon—office—residence	....	....	....	5	3	1	1	16	50	1	3
Residence and boarding house	....	....	1	1	1	1	....	10	24	1	1
Barber shop	....	....	1	1	1	1	....	2	39	1	1
Office	....	1	....	2	2	1	....	7	15	1	1
Saloon and pool room	....	1	....	....	....	1	....	1	15	1	2
Studio	....	....	....	1	....	1	....	4	8	1	1
Stable	....	....	....	1	....	....	....	1	8	1	1
Town hall	....	5	1	5	3	1	1	.....	.....	1	1
Total	15	284	102	383	240	287	106	2,271	$7,082	341	399

In the foregoing summary combined premises have been separately listed, as, for example, a combined saloon and boarding house has been shown separately from the summary of saloons. There are a total of 196 residence premises with sewer connections, and 53 residence premises without sewer connections. Of the other users all except one, a stable, have sewer connections.

Analysis of the consumer data shows several apparently gross iniquities and unjust discriminations. Among the single family residence consumers is a case of a two room residence paying the same charge as each of two eight room houses, owing to the fact that the number and kinds of openings are the same in each case; a case of a four room house paying the same charge as one with twelve rooms for the same reason, and so on. Among the stores and business places are cases reported as having only a wash basin in each but in which the charges were $8, $12, and $15 per annum. A one-room store has a water closet only for which it pays $15, while a two-room store having a similar fixture pays $7. Another one-room store has a wash basin and water closet for which a charge of $15 per annum is made while another store with two rooms and the same number and kinds of

fixtures pays $20. There may be something to be said against a charge based on the number of rooms, but the number of rooms is apparently one of the elements which should enter into a flat rate schedule.

Among the saloons, most of which pay the same rate ($50 per annum), it is found that there is one saloon with two rooms having two water openings, a wash basin and a water closet, and another place with twenty-eight rooms and ten water fixtures, yet both pay the same rate. It appears that the company's classification of consumers must be in error, as a building of twenty-eight rooms could hardly come entirely under the classification of saloon.

Some of the discrimination is not in violation of the existing schedule of rates while other discrimination is. In reference to this, the company maintains that it has not been able to keep "posted" as to the number and kinds of fixtures installed in each place supplied by it with water service, and therefore could not in all cases make the proper charges. The company's witnesses stated that additional fixtures are, at times, installed in various places and not reported to the company. The only feasible way to keep its consumer data correct is, apparently, to make complete and thorough inspections of all consumer's premises periodically. For such a community as Hurley the time of one employe of the company but for a few days each year would probably suffice in doing that. When the number and kinds of fixtures in a place are factors in the flat rate schedule it is necessary that systematic inspections of fixtures be made by the utility in order to avoid discrimination.

The metered consumers in this case and the size of the meter for each are reported as follows:

1 Barn	5/8"
1 Church	5/8"
1 County building	5/8"
1 Factory	5/8"
1 Hotel	5/8"
1 Ice company	5/8"
1 Railroad (C. & N. W.)	1½"
2 Schools	1" and 1¼"

The tabulation below presents the quantities reported by the utility to have been used, and the rates charged:

	Thousands of gallons used.				Rate.
	First quarter.	Second quarter.	Third quarter.	Fourth quarter.	
Barn	6.445	Estimated	30.233	22.223	40c and 10c
Church	.....	23.220	3.570	4.448	40c and 10c
County building	113.910	197.700	287.573	163.057	40c and 10c
Factory	.....	10.193	.....	.....	40c
Hotel	.....	32.925	27.075	150.900	40c and 10c
Ice company	.....	.....	16.800	.....	40c and 10c
Railroad	1,855.200	2,117.100	2,360.025	1,480.050	8c
North Side school	591.225	333.525	109.575	not read.	10c
South " "	160.538	139.320	90.930	91.388	10c

Some of the rates shown above appear to be different from those filed with the Commission, although none are in excess of the schedule rates. The reported consumption of the railroad was not sufficient to entitle it to the flat 8 ct. per 1,000 gallon rate provided in the schedule. No flat 10 ct. rate was provided in the schedule for schools.

In order to determine upon a schedule of meter rates which will answer the requirements of this case it is necessary to know, at least approximately, how much water would be delivered if Hurley were to be supplied upon a meter basis and what the expense of so supplying water would be. Unfortunately there is an almost complete lack of accurate information upon which to proceed. Only nine of the consumers are at present supplied through meters and these are hardly representative of conditions of consumption as they would be with complete metering. The Commission does not recommend complete metering in this case, but a gradual extension of the meter system is undoubtedly desirable and the meter rates should be so adjusted that, with the extension of the meter system, the rates will be suitable for the changed conditions, so far as it is possible to secure this result.

The estimated amount of water delivered in Hurley under the present flat rate system is no criterion of what the consumption would be if meters were to come into general use. The nine metered consumers, according to the report of the utility, used during the past year 10,419,168 gallons. It is not certain that this is a correct statement of the consumption, as there appear to have been some irregularities in reading meters, but it is not believed that there is any substantial error.

The metered users in Hurley are unquestionably very much larger users, on the average, than the present flat rate users

would be, if metered. Estimates of how much water would be used on a meter basis by present flat rate users are so likely to be erroneous that no one can say with any degree of assurance what that amount would be. Unfortunately the establishment of a meter rate requires an estimate of the consumption, fallible as that estimate may be.

From what data we have been able to gather, it seems to us unlikely that the use of metered water by existing flat rate users would be more than 8,000,000 gallons per year. This may seem almost incredible, in the light of the fact that the pumpage statistics indicate that probably more than 100,000,000 gallons per year are used, wasted or lost in Hurley under the present plan of distribution, but unless there are unusual conditions in Hurley of which we have no means of knowing, we estimate the total consumption on a meter basis at not to exceed 18,500,000 gallons per year, including sales to the nine consumers metered at present.

As previously stated, the expenses which should be borne by the general service under present conditions of operation are about $4,060 per year. If the policy of complete metering were to be adopted in Hurley there would be some decrease in these expenses, but the decreases would be by no means proportional to the decrease in water delivered to consumers. Practically the only expense which would be decreased would be a part of the cost of fuel and perhaps some items of pump maintenance which are closely related to variations in pumpage. Although consideration must be given to this condition, the decrease in expenses chargeable to Hurley would be so small that for purposes of our estimates we may use the expenses as stated above. There is, however, a group of expenses which would be incurred by metering, and which must be taken into consideration in the framing of a schedule of meter rates. These are the interest, taxes and depreciation on meters and the cost of meter reading and maintenance. If we assume that 5/8" meters would be satisfactory for the extension of the meter system of selling water, complete metering would apparently require the installation, maintenance, and reading of 341 additional meters. Quarterly reading of meters is probably all that would be required if a policy of general metering were adopted. The cost of maintenance would depend upon many factors, among which may be mentioned location, weather conditions and character of the water itself. For the purpose of determining a meter rate it is believed that ap-

proximately $600 per year should be allowed to cover the expense incident to metering, making the total expenses about $4,660 per year. If the estimate of the amount of water which would be sold, of 18,500,000 gallons per year, can be accepted as correct, the average cost per 1,000 gallons would be 25.2 cts.

An analysis of the data as to the water used during the past year by present users show that about 11 per cent of the total falls within the first 20,000 gallons per month, about 13¼ percent within the first 25,000 gallons, 15.57 per cent within the first 30,000 gallons, 17.61 per cent within the first 35,000 gallons and 19.47 per cent within the first 40,000 gallons per month.

Practically all of the water metered by an extension of the meter system would apparently come within any of the primary groupings oulined above. The estimated consumption within the first 20,000 gallons per month, including present metered users, would be 9,226,940 gallons and within 40,000 gallons per month, 10,109,444 gallons. Within the first 10,000 gallons per month about 8,770,000 gallons would be used.

An examination of the estimated costs of furnishing service in Hurley indicates that it would be difficult to make a rate schedule which would closely follow the cost curve, but the following schedule appears to be about what should be installed:

	Cts. per 1,000 gallons
For the first 10,000 gallons per month through one meter	35
For the next 30,000 " " " "	25
For the next 60,000 " " " "	18
For the next 100,000 " " " "	10
For all over 200,000 " " " "	5

This schedule, on an estimated consumption of 18,500,000 gallons per year, would produce a little less than the estimated expense of the service but a properly adjusted minimum charge would add some revenue to that produced by the rate for water. Inasmuch as the whole matter of fixing a meter rate is so largely a matter of estimate and no general installation of meters is actually contemplated at this time, the meter rate outlined above, with quarterly minimum charges as outlined below, will be satisfactory:

Quarterly minimum	Size of meter
$1.50	⅝"
2.00	¾"
3.00	1"
4.00	1¼"
5.00	1½"
7.00	2"

Flat Rates:

The foregoing meter rates applied to the past year's use of the nine metered consumers would have produced a revenue of $1,247.85, exclusive of any revenue which might have accrued from the application of the minimum charge.

Because of the fact that the results reached in this case have had to be very largely arrived at by estimate and because of the possibility that estimates of expense may prove to be rather conservative, it is probably not desirable to reduce the flat rates to the lowest possible extreme indicated by the cost analysis, but the facts show that there must be a substantial decrease in the general level of flat rates.

The flat rate consumer data submitted by the utility are not clear in some respects, but from an examination of the data available we believe that a schedule of flat rates as hereinafter outlined will be satisfactory. It should be clearly understood that this is not a perfectly adjusted schedule, but it appears to be as nearly what should be provided as is practicable. This schedule will produce sufficient revenue to fully meet the needs of the utility, as shown by its reports to the Commission, and will result in a very marked reduction in charges to almost, if not quite, all of the consumers.

Character of Service.

The complaint alleges that the service rendered by the Hurley Water Company is inadequate, both as to pressure maintained for fire fighting and as to the quality of the water from the standpoint of its domestic use.

Fire Service. In reference to fire service it has been ascertained that no pressure recording gage has been maintained in Hurley by either the company or the community at large. Therefore there is available no reliable record of measured pressure maintained at any time. There appeared, however, to be quite a number of citizens of Hurley ready and anxious to declare, in no uncertain terms, that the pressure furnished during certain fires within the past two years was seriously deficient.

The company has, in its office in Ironwood, one pressure recording gage connected to the system of water mains. By this means it has obtained a series of continuous twenty-four hour records of the pressure in the system at that point. Had the pressure in Hurley been as great during the fire most in ques-

tion as that recorded in the Ironwood office there should have been no cause for complaint against the water company on this subject. But unfortunately there is now no way of ascertaining just what pressure was furnished in Hurley at that time. Very little, if anything, of value can be accomplished in a present discussion of the conditions. The best that can now be done in the matter is to determine to profit by the experience and be prepared in the event of a repetition of it to show a reliable and undeniable record of pressure furnished. Both the water company and the community might well have their own independent pressure recording gages connected by special service pipes to the Hurley mains. These special services should be used for no other purpose and should be well protected from frost.

In the case of one of the fires referred to above the company claims to have closed the standpipe connections and furnished fire pressure within five minutes after receipt of the alarm, and that it did not receive an alarm at its pumping station promptly after the discovery of the fire, the result being that the fire gained undue headway. Citizens of Hurley have stated to a representative of the Commission, in an inquiry conducted subsequent to the hearing held October 1, 1913, that a full standpipe of water furnishes about 80 lb. pressure per square inch in the principal business section of the city, where the fires referred to occurred. These fires occurred along the principal main of the Hurley system, a 10″ pipe line. The depth of the standpipe makes a difference in the static pressure at any place in the system of less than 22 lb. The company's pressure record for the day of the Arcade building fire indicates that the pressure (at the Ironwood office of the company) was very close to 80 lb. and that pumping had apparently been stopped at 1:50 a. m., or about 40 minutes before the fire broke out. The Company's superintendent testified at the Commission's hearing that he was present at that fire and found that one of the hydrants had been only about half opened.

The evidence shows that Hurley is dependent upon telephone service to get a fire alarm or a call for more pressure to the pumping station, although the village has a box alarm system. This system doubtless could and should be extended to the pumping station for the best use of both. Efficiency of a fire department and its apparatus is as much a factor in good fire protection as is water works service. There should be harmony and

coöperation between these two organizations and promptness and high efficiency in each.

The evidence in this case does not clearly show that the company was at fault in the cases of the fires mentioned.

Domestic Service. The quality of the water is the basis of complaint from the consumers' standpoint. It seems to be generally acknowledged that there has been a material improvement in the appearance of the water within recent months. This is, without doubt, due to the recent construction by the water company of a modern purification plant, as hereinbefore explained.

The testimony of one witness, a member of the town board, shows that on one occasion the report on an analysis of the water pronounced it good drinking water, and on another occasion the analysis condemned it for drinking purposes. Dates and other detailed information relative to these anaylsis were not submitted.

Examination has been made of the file of reports in the state hygienic laboratory on analysis of water samples received by the laboratory from Hurley during the last two years. Fifteen such reports were found, but only a few of them were clearly shown to be on samples from the public supply furnished by the Hurley Water Company. The last of these was taken and shipped from Hurley on January 23, 1914. The report pronounced the water good. Other reports were on samples from private wells, the school well and from wells and intakes of the Odanah Iron Company. These latter ranged in character from good to highly polluted. One of two from the school well was pronounced "polluted" and the other "not very satisfactory from drinking purposes,—shows presence of surface contamination and pollution."

As the water company takes its supply from the Montreal river at a point well upstream from any local pollution due to the settlements of Hurley and Ironwood, it is probable that intelligent supervision and operation of its water purification plant should secure satisfactory results.

The character of the water now being supplied by the company is admitted by citizens of Hurley to be noticeably better than that furnished prior to the construction, about two years ago, of the purification plant. The supervision of this feature of the works, however, is not all that is to be desired. The company apparently has no laboratory facilities of its own for determining the results obtained from its filters, or the time for

using its hypochlorite plant or the amount of such chemical to be applied at any time. Such facilities may, at certain periods, be of decided benefit to the service. At present there is no evidence that they are urgently needed and their first cost and cost of operation would add materially to the expense of the service. Until more evidence of the need of such additional facilities is obtained an order for their installation is not deemed advisable.

In view of all the foregoing facts and considerations

IT IS ORDERED:

(1) That the Hurley Water Company shall at all times be prepared to meet the reasonable fire service demands of the village of Hurley and to furnish the necessary number of hose streams under adequate pressure at the hydrants, and that for the purpose of showing the pressure maintained at any and all times, it shall install at a central location on the Hurley pipe system and keep in service a suitable pressure recording gage, the original daily records made by the gage to be filed and preserved by the company for ready future reference.

(2) That the Hurley Water Company shall abandon its present schedule of rates and substitute therefor the following rates, deemed just and reasonable.

PUBLIC SERVICE.

Municipal hydrant service, as now constituted, per annum—$2,800.

COMMERCIAL SERVICE.

Meter Rates

Minimum quarterly charges:

⅝" meter	$1.50
¾" "	2.00
1" "	3.00
1¼" "	4.00
1½" "	5.00
2" "	7.00

Charges for water:

35 cts. per 1,000 gallons for the first 10,000 gallons per month through one meter.

25 cts. per 1,000 gallons for the next 30,000 gallons per month through one meter.

18 cts. per 1,000 gallons for the next 60,000 gallons per month through one meter.

10 cts. per 1,000 gallons for the next 100,000 gallons per month through one meter.

5 cts. per 1,000 gallons for the excess.

Flat Rates—Annual.	With sewer	Without sewer
Dwellings—1 fixture	$5.00	$4.00
Dwellings—each additional fixture	2.00	1.00

Where a dwelling or apartment has no direct water supply but water is carried from other premises the charge for each such dwelling or apartment shall be $4.00 per year. Where fixtures, such as water closets or others, are used by more than one family the charge for each additional family shall be $1.00.

Business places, including saloons, stores, etc.

First fixture	$6.00
Each additional fixture	2.00

In all classes of premises each additional room in excess of eight used by one family or for one business purpose shall be charged for at the rate of 50 cts. per year.

In business places where a fixture is used jointly by two or more business establishments, or for two or more business purposes, a charge of $1.00 per year shall be made for each user above one, except that where such jointly used fixture furnishes the main supply of water for such additional businesses each additional user shall be charged $4.00 per year for such supply.

Each apartment, flat, etc., shall be considered a separate consumer. Where two businesses are conducted in the same building, such as saloon and hotel businesses, each business shall be classed as a separate consumer.

The above schedule shall take effect at the beginning of the next period for which flat rate bills are to be rendered.

Sixty days is deemed sufficient time within which to comply with section (1) of this order.

VILLAGE OF MERRILLAN

vs.

CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY COMPANY.

Submitted Oct. 22, 1913. Decided April 14, 1914.

The petitioner alleges that the crossings on the respondent's line at Pearl st. and Main st. in the village of Merrillan, Jackson county, are dangerous and that the protection now afforded by electric bells is inadequate and annoying to the public. Investigation shows that because of the conditions of railway operation at Merrillan the bells in question frequently ring for long periods when no trains are actually passing over the crossings.

Held: The crossings are dangerous and, under the peculiar conditions of highway traffic and train operation which obtain there, the existing safeguards are inadequate. The respondent is ordered to station a flagman at the Pearl st. crossing who shall be on duty from 7 a. m. to 6:30 p. m. daily; to install and maintain an electric gong at the Main st. crossing to be operated by the flagman at Pearl st.; to replace the electric bells now installed at Pearl st. and Main st. by modern visual signals operated automatically and equipped with a suitable flashing device to be operated when the flagman is not on duty; to replace the board fence which extends west from Main st. along the south side of the connecting track with the G. B. & W. R. R. Co's line by a woven wire fence; and to flag all switching movements over Main st. on said connecting track. Plans for the electric gong and signal lights are to be submitted for approval. Ninety days is considered a reasonable time within which to comply with this order.

The petitioner, an incorporated village in Jackson county, alleges in substance that two crossings on the line of the Chicago, St. Paul, Minneapolis & Omaha Railway Company at Pearl street and Main street in the village of Merrillan are dangerous and that the protection now afforded is inadequate and annoying to the public. The Commission is therefore asked to require the respondent to maintain flagmen at these crossings in place of the electric bells now installed.

The respondent, in its answer, takes the position that the existing protection is adequate, but states that an order minimizing the annoyance to the public without detracting from the safety of the alarm feature will be agreeable to it.

A hearing was held on October 22, 1913, at Merrillan, *R. F.*

Kountz appearing for the petitioner and *R. L. Kennedy* for the respondent.

The testimony shows that on September 18, 1911, the village of Merrillan passed an ordinance requiring the respondent to establish gate protection at Pearl street. This ordinance was not complied with, and after some conference with the railway officials, the village board on March 5, 1912, enacted another ordinance providing for protection by flagman at Pearl street. Pursuant to this requirement a flagman was maintained at this crossing until August 28, 1912, when electric bells were placed in operation at both Pearl street and Main street. The question before the Commission is whether these bells adequately protect public travel.

Pearl street is the main thoroughfare of Merrillan over which practically all of the traffic from Neillsville passes. A school with an enrollment of 248 is located a short distance from the crossing, and a large proportion of the children in attendance cross the tracks at Pearl street. The petitioner introduced the results of a traffic count made between the hours of 7 a. m. to 7 p. m. on October 20, 1913, and from 7 a. m. to 6 p. m. on the following day, as follows:

Date.	Pedestrians.	Teams.	Automobiles.
October 20, 1913	898	91	10
" 21, 1913	954	93	3

The man who took this count stated that the weather on the 20th was stormy and the road muddy and that the following day was cold and disagreeable. He said that switching movements occurred from 1:25 p. m. to 3:13 p. m. on the 20th and from 12:05 p. m. to 12:45 p. m. on the 21st, and that a number of flying switches were made during these periods.

Counts were made by members of the Commission's engineering staff with the following results:

Period.	Pedestrians.		Teams.	Automobiles.	Through trains.	Switching movements.
	Children.	Adults.				
November 25, 1913, 9:30 a. m. to 12:15 p. m.	109	43	31	5	2	2
February 20, 1914, 8:30 a. m. to 8 p. m.	311	221	88	0	15	23

Main street is a less important thoroughfare than Pearl street, but it is used to a considerable extent. No specific traffic data were offered at the hearing, but counts made by members of the Commission's engineering staff resulted as follows:

Period.	Pedestrians.		Teams	Automobiles.	Through trains	Switching movements.
	Children	Adults.				
November 25, 1913, 8:30 a. m. to 12:05 p. m.....	17	25	18	0	1	6
February 20, 1914, 8:30 a. m to 8:30 p. m.....	32	22	26	1	13	14

Witnesses cited numerous specific instances of the failure of the bells to work properly. Moreover, it was said that because of the conditions of railway operation the bells frequently ring for long periods when trains are not actually crossing Pearl street and Main street. The observations of our engineering staff substantiate the complaint that the bells ring for considerable periods when no trains are passing.

After describing the physical surroundings of these crossings, and the conditions of traffic on the railway and the highway, our engineer comments on the character of protection needed as follows:

"In view of the fact that the electric alarms at both streets ring for long periods without a train actually moving over the crossings, and that because of this fact they are not rendering efficient protection, inasmuch as people have come to disregard their ringing, knowing that they frequently ring when a train is not near the crossing, it is believed that some other form of protection is imperative to avoid accidents. The Pearl street crossing is heavily traveled by school children and for their safety no automatic device is considered to be effective under the existing operating conditions. A flagman is believed to be the only proper form of protection for this street. At Main street the traffic is not so heavy and includes fewer children. A flagman is not deemed necessary here, since effective protection will be afforded for all main line movements if an electric gong is installed, to be operated by the flagman at Pearl street under careful instructions that it shall not be rung except when trains are actually approaching the crossing. The southwest corner of the Main street crossing has a high, tight board fence along the right of way line westerly from the building line, which fence was erected by the private owner. It would curtail the view of a flagman at

Pearl street of movements over the Green Bay connecting track. A man stationed on the north side of Pearl street could see 57 feet west of the westerly Main street walk along this track and from the south side of Pearl street could see only 50 feet. These views are too much restricted by far, but could be somewhat increased. To remedy this condition the railway company should replace the joint board fence by a wire fence. Every switching movement over the connecting track should be carefully flagged over Main street by a member of the train crew. This will provide satisfactory day protection for both crossings.

"As regards night protection the bells might be retained with a switch for cutting them out of service during the day, but it is suggested that since their continued ringing is very objectionable to the residents it might be advisable to replace them by some improved visual signal. There is a quite effective lighting device on the market which is already being installed on another railway in the state; this arrangement, by a stationary fixture with several lamps that light up in succession, gives the effect of a moving light and very effectively attracts the attention of travelers. A similar result, insofar as attracting the attention of travelers on the streets, could be had by using a rather powerful light designed to give an intermittent or flashing illumination. Some such lighting device it is believed would provide sufficient warning so that the bells might be dispensed with. The unsatisfactory condition of having a warning given without a corresponding train movement would still be present but the objectionable noise from the bell would be eliminated and travelers would receive an indication of railway movements and be prepared to meet a train. Since the night travel is quite light it is believed that protection as indicated would be ample. For some months of the year the light protection would be operating partly in daylight hours when the flagman would not be on duty and for this reason the lights used will have to be provided with a special lens or reflecting arrangement for concentrating the rays such as are employed in certain commercial forms of light signals."

It is our judgment that each of the crossings in question is dangerous, and that, under the peculiar conditions of highway traffic and train operation in Merrillan, the existing safeguards are inadequate. We regard the protection suggested by our engineer as necessary to adequately provide for the safety of the traveling public.

IT IS THEREFORE ORDERED, That the respondent, the Chicago, St. Paul, Minneapolis & Omaha Railway Company, station a flagman at the Pearl street crossing in the village of Merrillan, who shall be on duty from 7 a. m. to 6:30 p. m. daily; install and

maintain an electric gong at the Main street crossing to be operated by the flagman at Pearl street; replace the electric bells now installed at Pearl street and Main street by modern visual signals operated automatically and equipped with a suitable flashing device to be operated when the flagman is not on duty; replace the board fence which extends west from Main street along the south side of the connecting track with the Green Bay & Western Railroad Company's line by a woven wire fence; and flag all switching movements over Main street on said connecting track.

Plans for the electric gong and signal lights are to be submitted to the Commission for approval.

Ninety days is considered to be a reasonable time within which to comply with this order.

TOWN OF SULLIVAN
vs.
CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Decided April 14, 1914.

The petitioner alleges that the Radiske, Jefferson st., Palmyra road and Golden Lake crossings on the respondent's line in the town of Sullivan, Jefferson county, are dangerous. Inasmuch, however, as it is admitted that the complaint is not directed primarily against the Radiske and Golden Lake crossings and as the testimony introduced with respect to these crossings is very meager, action at the present time is confined to the Jefferson st. and Palmyra road crossing.

Held: The crossings at Jefferson st. and the Palmyra road are dangerous. The respondent is ordered: (1) to install within ninety days and maintain at each of the crossings an automatic electric bell with illuminated sign, plans to be submitted for approval; and (2) to flag each of the crossings during all switching movements over it and during such time as standing trains may be cut to allow highway traffic to cross.

The petitioner, a regularly organized town in Jefferson county, alleges in substance that four highway crossings on the line of the Chicago & North Western Railway Company in the town of Sullivan are dangerous to public travel. The crossings are designated as follows:

1. Radiske crossing, about three miles west of Sullivan station.

2. Main street (Jefferson street) crossing, immediately west of Sullivan station.

3. Palmyra road crossing, immediately east of Sullivan station.

4. Golden Lake crossing, at Golden Lake station.

The Commission is asked to require the respondent to properly safeguard these crossings.

The respondent, in its answer, denies that any of the crossings involved in the complaint are more dangerous than any crossing of a highway over a railroad track and asks that the petition be dismissed.

A hearing was held at Sullivan on November 10, 1913, at which *Sylvester Garity* appeared for the petitioner and *C. A.*

Vilas, for the respondent. Additional evidence was taken at Madison on November 13, 1913, *C. A. Vilas* appearing for the respondent.

Radiske and Golden Lake Crossings.

The town chairman stated that the complaint is not directed primarily against the Radiske and Golden Lake crossings, and the testimony introduced by the town with respect to them is very meager. It also appears that the traffic at the Golden Lake crossing is materially different in summer than in winter. Action with reference to these two crossings will therefore be held in abeyance, and this decision will refer only to the Main street crossing, the proper name for which is the Jefferson street crossing, and the Palmyra road crossing.

Jefferson Street Crossing.

Jefferson street runs northeast and southwest, and crosses the main track and a sidetrack of the respondent's east and west line about 250 feet west of Sullivan station. The town chairman testified that from the northeast highway approach a comparatively unobstructed view may be had of trains to the east, and that trains can be seen approaching from the west when a traveler is within 10 rods of the track. He said that from the southwest highway approach the view to the west is obstructed by cars standing on the sidetrack and by a tamarack swamp about a quarter of a mile from the crossing and that the view to the east is limited by an elevator, a coal shed, a lumber shed, other buildings farther back from the tracks, and very frequently by cars standing on the sidetrack.

A map of the crossing situation, upon which the limits of vision as observed by the respondent's engineer are indicated, was offered in evidence. These observations have been reduced to tabular form as follows:

Distance of point of observation in highway from main track.	View east.	View west.
Northeast 150 feet	1500 feet	1500 feet
" 200 "	1500 "	560 "
" 250 "	1500 "	460 "
Southwest 50 "	340 "	310 "
" 75 "	200 "	260 "
" 100 "	90 "	[1]250 "

[1] View unobstructed beyond 480 feet west.

The company's superintendent testified that the warehouse in the southeast angle of the crossing is on a leased portion of the railway right of way and expressed the opinion that if this lease were terminated and the building removed, the view afforded to travelers would be satisfactory.

Jefferson street is a part of the highway from Oconomowoc to Rome and is included in the Wisconsin highway commission's system of state aid roads. A traffic count at the crossing was made on October 18, 19 and 20, 1913, by an employe of the company from 7 a. m. to 7 p. m. The average daily traffic was given by the superintendent as follows:

Pedestrians	480
Teams	140
Automobiles	125
Bicycles	36
Motorcycles	3

A count made by the Commission's engineer on February 24, 1914, from 7:45 a. m. to 7:30 p. m. resulted as follows:

Pedestrians (children)	61
Pedestrians (adults)	68
Through trains	8
Switching movements	12
Teams	95

The superintendent testified that there are eight regular passenger trains and four regular freight trains operated on this division, five of which cross at night. Two passenger trains which do not stop at Sullivan ordinarily pass that station at a speed of from thirty to thirty-five miles an hour. Few extra trains are operated. Several narrow escapes from accident were described by witnesses.

Our engineer recommends that a bell and light be installed at Jefferson street, and that the crossing be flagged by members of the train crews during all switching movements and whenever a standing train is cut to allow highway traffic to cross.

Palmyra Road Crossing.

The Palmyra road runs northwest and southeast, crossing the main track and a sidetrack about 650 feet east of Sullivan station. The testimony shows that from the northwest highway ap-

proach the view to the west is comparatively unobstructed and the view to the east limited by a house and barn. From the southeast highway approach the view of trains to the west is obstructed by buildings, the stockyards, the depot and by cars standing on the sidetrack. The view to the east is cut off from a point more than 15 rods from the main track until a traveler has crossed the sidetrack, and is within 35 feet of the main line, the chief obstruction being a condensed milk factory.

The respondent introduced a map showing the limits of vision as observed by its engineer, which have been reduced to tabular form as follows:

Distance of point of observation in highway from main track.	View east.	View west.
Northwest 50 feet	1 mile	1,500 feet.
" 100 "	385 feet	1,000 "
" 150 "	140 "	900 "
" 200 "	[1]110 "	800 "
" 300 "	[1]80 "	700 "
Southeast 50 " [2]	1 mile	665 "
" 75 " [2]	110 feet	545 "
" 100 "	55 "	500 "
" 150 "	45 "	475 "
" 200 "	40 "	465 "

[1] View may be had of train in distance back of 200 feet from track.
[2] View will be further obstructed when cars are on sidetrack.

The highway is the main road from Sullivan to Eagle and Palmyra. An employe in the condensed milk factory testified that more than one hundred milk teams usually cross during a day. A three day traffic count was made by an employe of the company on October 18, 19, and 20, 1913, from 7 a. m. to 7 p. m., the daily average being as follows:

Pedestrians	320
Teams	160
Automobiles	20
Bicycles	7
Motorcycles	2

Our engineer's count, made on February 24, 1914, from 7:45 a. m. to 7:30 p. m. resulted as follows:

Pedestrians (adults)	50
Teams	74
Through trains	8
Switching movements	18

Two serious accidents at this crossing were described by witnesses.

Our engineer recommends that a bell and light be installed at the Palmyra road and that the crossing be flagged by members of the train crews during all switching movements and while standing trains are cut to allow highway traffic to cross.

In the light of the testimony and of the reports of our engineering staff, we find that the crossings at Jefferson street and at the Palmyra road in the town of Sullivan are more than ordinarily dangerous. The protection recommended by our engineer will, in our opinion, render these two crossings reasonably safe under the existing traffic conditions.

IT IS THEREFORE ORDERED, That the respondent, the Chicago & North Western Railway Company, install and maintain at each of the two highway crossings on its line at Jefferson street and at the Palmyra road in the town of Sullivan, Jefferson county, an automatic electric bell with an illuminated sign for night indication, plans for track circuits to be submitted to the Commission for approval.

IT IS FURTHER ORDERED, That said respondent railway company flag each of said crossings during all switching movements over it, and during such time as standing trains may be cut to allow highway traffic to cross.

Ninety days is considered a reasonable time within which to comply with the first paragraph of this order.

IN RE APPLICATION OF THE McGOWAN WATER, LIGHT AND POWER COMPANY FOR AUTHORITY TO INCREASE RATES.

Submitted April 1, 1914. Decided April 14, 1914.

The McGowan W. Lt. & P. Co. applies for authority to put into effect a minimum monthly charge of $1 for electric service for which, up to the present, the utility has had no minimum charge. The utility is operating at a loss.

Held: Although a minimum charge of $1 per month would not produce an excessive amount of revenue, such a charge is inadvisable because of its probable effect on the business of the utility. The utility is authorized to put into effect a minimum monthly charge of 75 cts. which is considered sufficient to insure the utility against actual losses arising from carrying the accounts of individual consumers.

Application in this matter is dated January 17, 1914. The applicant, the McGowan Water, Light and Power Company, is a public utility engaged in the operation of a water and electric plant in Milton Junction, Wis. The application relates only to the matter of a minimum charge for electric service. It appears that the utility has never had a minimum charge for electric service, and authority is asked in this case to put in a monthly minimum charge of $1.

Hearing in this matter was held at Madison on April 1, 1914. *E. C. McGowan* appeared for the applicant, and there was no appearance in opposition.

The statement of Mr. McGowan indicates that the utility has been operating at a considerable loss and that there is no immediate prospect of its being placed upon even a self-supporting basis. This is substantiated by an examination of the records of the utility by the accounting staff of the Commission. Following is a statement of the income account for the period from July 1 to December 31, 1913. It will be noted that revenues are shown separately for the electric and water departments but the most of the expenses are shown jointly. For the purposes of this case it is not considered necessary to make an analysis of these joint expenses to determine the cost of conducting the electric and water departments separately.

REVENUES—ELECTRIC.

Commercial lighting earnings	$705.85	
Municipal contract lighting	133.38	
Miscellaneous earnings from operation	25.00	
Total earnings from operation—electric		$864.23

REVENUES—WATER.

Commercial sales earnings	$406.94	
Miscellaneous earnings from operation	16.50	
Total earnings from operation—water		423.44
Total earnings from operation—both depts		$1,287.67

JOINT OPERATING EXPENSES.

Gasoline power apportionment account	$830.20
Power generation	297.23
Storage	41.81
Distribution—electric	84.87
Consumption	5.25
Pumping—water	57.12
Distribution—water	1.70
Commercial—joint	35.41
General—joint	90.10
Undistributed—joint	47.45
Total above expenses	$1,491.14
Loss without allowance for depreciation	$203.47
Non-operating gain—electric $40.93	
" loss—water 2.93	
	38.00
Net loss without allowance for depreciation	$165.47
Allowance for depreciation—6 months	429.18
Gross loss on both departments	$594.65

It appears from this income account that during the six months in question the net loss without allowance for depreciation was $165.47. For accounting purposes the depreciation was estimated to be $429.18. Whether this is exactly the amount which would be taken into consideration in case of a complete adjustment of the rates of the utility need not be determined here. It is sufficient to note that whatever the allowance for depreciation, the utility is operating at a loss.

There may be several reasons for this unprofitable operation. It is understood that no revenue is derived from hydrant rentals in the water department, in fact that no fire protection service is furnished. It is also possible that certain of the rates

for other services are not properly adjusted. It is probably true also that the rather high rate for general electric services acts to some extent to discourage the use of electricity, although it does not seem possible to provide for a reduction of this rate at the present time.

As far as the total revenues of the utility are concerned, it is clear that a minimum charge of $1 per month will not produce an excessive amount of revenue. A minimum charge very much higher than $1 a month would in fact fail to make up the deficit. It appears to be impracticable to attempt to any considerable extent to increase the total revenues of the utility by means of a minimum charge. Consequently the question of the authorization of a minimum charge of $1 should be decided with reference to the reasonableness of that particular charge rather than with reference to the total revenues of the utility, although this latter is also an item to be considered.

A list of the bills for electric service covering consumption in the months of June and December, 1913, shows that if a $1 per month minimum had been in effect during the past year, 25 out of a total of 51 consumers would have had their bills increased for the month of June and that 15 out of a total of 67 consumers would have been affected during December.

No analysis of the consumer expenses of this utility which would show just what the minimum charge should be, is considered feasible, but such analyses have been made in other cases with the result that minimum charges ranging from 50 cts. to $1 per month have been authorized. The cost which is properly chargeable as a consumer expense is not the only item which should be considered in determining the minimum charge. The effect upon the business must also be taken into consideration, and in this case we believe that a $1 minimum charge would be inadvisable. It is evident, however, that some minimum charge should be put in, and we believe that a charge of 75 cts. per month will be a proper one. During the month of June, 1913, 20 consumers would have been affected to some extent by such a charge, and during the month of December, 9 consumers would have been affected by it.

The total increase in revenue resulting from a 75 ct. minimum charge will not be large, but, as stated before, the minimum charge can hardly be expected to make up to any great extent the deficits from operation. It should, however, under normal con-

ditions, meet the fixed consumer costs and provide for a payment for the average use of current falling within the minimum. A charge of 75 cts. per month will, we believe, accomplish these purposes. It will not add very much to the revenue of the utility, but it will insure the utility against actual losses in carrying the accounts of individual consumers.

A charge higher than 75 cts. per month would very materially increase the bills of a number of consumers and would affect a very large proportion of the consumers during certain parts of the year. Although it might appear at first sight that because the utility is operating at a loss a $1 minimum should be authorized in order to increase the revenues, it is altogether probable that merely increasing the charges will not have the effect of increasing the revenues. We believe it will be better policy for the company to install the 75 ct. monthly minimum charge than to install a minimum of $1.

IT IS THEREFORE ORDERED, That the applicant in this case, the McGowan Water, Light and Power Company, be and the same is hereby authorized to add to its schedule of rates for electric service a minimum monthly charge of 75 cts. This rate may be placed in effect with the beginning of the next period for which bills are rendered succeeding the date of this order.

IN RE PROPOSED EXTENSION OF THE LINE OF THE MATTOON TELEPHONE COMPANY IN THE TOWN OF NORWOOD, LANGLADE COUNTY, WISCONSIN.

Submitted April 8, 1914. Decided April 14, 1914.

The Mattoon Tel. Co. filed notice with the Commission of its intention to extend its line to the unincorporated village of Phlox in the town of Norwood, Langlade county. The Antigo Tel. Co. objects to the proposed extension. The line which the Mattoon Tel. Co. desires to extend is authorized, though not yet constructed, to a point a half mile short of the village. The Antigo Tel. Co. has a toll line extending from Antigo through Phlox to Mattoon and renders service between Phlox and Mattoon at its regular toll rates. Service over the proposed extension would be free of toll charge.

Held: Inasmuch as the village of Phlox already has adequate telephone connections, it cannot be said that public convenience and necessity require the extension of the Mattoon line for local service into the village. If the toll rate charged by the Antigo Tel. Co. is excessive, the Commission can reduce the rate upon the institution of proper proceedings.

On March 25, 1914, the Mattoon Telephone Company served notice upon this Commission of a proposed extension of its line in the town of Norwood, Langlade county, Wis., and shortly thereafter notice was received from the Antigo Telephone Company of its objection to the proposed extension.

The matter was thereupon set for a hearing which was held at Antigo on April 8, 1914. The Mattoon Telephone Company was represented by *S. H. Kratz* and the Antigo Telephone Company by *T. W. Hogan* and *Edward Cleary*.

The Antigo Telephone Company has a toll line running from Antigo on the north through the unincorporated village of Phlox to the village of Mattoon, where it connects with the switchboard of the Mattoon Telephone Company. The latter company already has legal authority for an extension of its line north in the direction of Phlox but the line as now authorized stops a half mile short of that village. The present case involves a proposed extension of line into the village of Phlox. None of the line has as yet been built, it being the purpose of the Mattoon Telephone Company to ascertain before beginning construction

whether the entire line to Phlox will be authorized. Six contracts have been secured for service upon the line as originally proposed, but the Mattoon Telephone Company has been assured of the patronage of twenty to twenty-five additional farmers if the line is constructed through to Phlox.

The Antigo Telephone Company's toll line from Antigo to Mattoon through Phlox connects with five telephone stations in the latter village, all of which are toll stations. The toll charged at this station of Phlox is 15 cts. for the first three minutes and 5 cts. for each additional minute of conversation. This rate is uniform over the entire toll line whether used for its whole length between Antigo and Mattoon or only for the portion of its length between Phlox and Antigo or Phlox and Mattoon. Phlox is about four miles north of Mattoon and twelve miles south of Antigo.

It is quite apparent that if the Mattoon line were extended into Phlox so that the residents of that village could connect with it and reach Mattoon without paying any toll charge, that line would be used for messages from Phlox to Mattoon to the exclusion of the toll line now in existence. If, on the other hand, the Mattoon line stops half a mile south of Phlox, as the company first intended, the farmers connected with that line could still reach Phlox by calling the Mattoon exchange and being switched over the Antigo Telephone company's toll line, at the regular charge of 15 cts. Thus these farmers would not be deprived of the opportunity to reach Phlox for the transaction of such business as they might have there, but they would do so over the existing line and would contribute to the cost of maintenance and interest charges on that line.

We believe it can not be said that public convenience and necessity require the extension of the Mattoon line for local service into Phlox when an adequate line now exists for connection with the residents of that village. As far as the testimony shows, there is no particular need for local telephone service within the village of Phlox as distinguished from service which will enable the residents of all the village to reach and be reached by other points. Phlox, it was stated at the hearing, is an inland village of about thirty families, with seven business places. In addition to the five business places which have toll stations, there is one public pay station, and as far as we are advised the needs of the residents are satisfied by these stations, so

far as the quality and quantity of service are concerned. If the 15 ct. toll rate is excessive, this Commission can, upon the institution of proper proceedings, reduce the rate, but in any event the present record shows nothing so burdensome in the situation as to warrant an extension which will necessarily cause great loss of revenue to the Antigo Telephone Company.

We therefore find and determine that public convenience and necessity do not require the extension of the line of the Mattoon Telephone Company in the town of Norwood, Langlade county, Wis., as proposed in the notice filed by said Mattoon Telephone Company with this Commission on March 25, 1914.

VILLAGE OF SUN PRAIRIE
vs.
CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Submitted Jan. 8, 1914. Decided April 15, 1914.

The petitioner alleges that the respondent's station facilities at Sun Prairie, Dane county, are inadequate and expresses the opinion that a new and modern station building with proper approaches is required.

Held: The station facilities are inadequate. The respondent is ordered to provide a station which shall be adequate for the accommodation of passengers and freight, and which shall have ample platform accommodations, plans to be submitted for approval. July 1, 1914, is considered a reasonable date at which the work ordered shall be completed.

The petitioner, an incorporated village in Dane county, alleges in substance that the station facilities furnished by the Chicago, Milwaukee & St. Paul Railway Company at Sun Prairie are inadequate and expresses the opinion that in order to provide reasonably adequate facilities for the accommodation of the public a new and modern station building with proper approaches is required. The Commission is therefore asked to take such action as it deems just in the premises.

The respondent, in its answer, enters a general denial of the allegations contained in the petition and asks that the complaint be dismissed.

A hearing was held on January 8, 1914, at Sun Prairie. *John Moran* appeared for the petitioner and *J. N. Davis* for the respondent.

At this hearing the respondent's general superintendent stated that prior to the filing of the present complaint the company had planned to enlarge the depot at Sun Prairie, providing a ladies' waiting room, a smoking room and all other conveniences for which facilities are available. Upon the filing of the complaint action was deferred until a decision in the matter should be reached by the Commission. He stated that the company would be willing to undertake these improvements as soon as its financial condition will permit the necessary expenditure.

The testimony shows that the present station was built about 1870. It contains an office, a freight room, a small storeroom, and a waiting room which is used in common by both men and women. This waiting room is approximately 24 feet long and 16 feet wide, and is heated by a stove. Seats are provided for 18 persons. The only toilet facilities are outside closets located about 150 feet from the station. Witnesses stated that the windows are not opened and that the ventilation is very poor, especially since men make a practice of smoking in the common waiting room. It was also asserted that the building is in a dilapidated condition and is very unsightly. The waiting room was said to be insufficient for the accommodation of passengers, being frequently crowded. Witnesses testified that the platform in front of the depot is too narrow to allow for the safe movement of trucks, and that beyond the end of the depot passengers are liable to step off of it and injure themselves because of its narrowness. Such an accident was described at the hearing.

In the light of the testimony, we find that the existing station facilities at Sun Prairie are inadequate. It is our judgment that a suitable station should be provided with separate waiting rooms for men and women with ample platform accommodations. This will probably necessitate some rearrangement of the sidetracks north of the station.

IT IS THEREFORE ORDERED, That the respondent, the Chicago, Milwaukee & St. Paul Railway Company, provide a station at Sun Prairie which shall be adequate for the accommodation of passengers and freight, and which shall have ample platform accommodations, plans to be submitted to the Commission for approval.

July 1, 1914, is considered a reasonable date at which the work ordered herein shall be completed.

TOWN OF WILTON
vs.
CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted Aug. 11, 1913. Decided April 15, 1914.

The petitioner alleges that the Dorsett crossing on the respondent's line, about three miles east of Wilton, Monroe county, is dangerous and asks that the respondent be ordered to construct an under-crossing for the highway. The respondent contends that the existing bell protection is adequate. Five possible plans for grade separation are considered.

Held: The crossing is dangerous and the existing protection is inadequate. It is ordered: (1) that the respondent construct and maintain an under-highway crossing at a point and in a manner specified, and connect it with the existing highway; (2) that the town of Wilton pay to the respondent 25 per cent of the cost of the alterations ordered, as determined by the Commission, and that the respondent bear the remainder of the cost; and (3) that, when the under-crossing ordered is completed, the existing crossing be closed. The alterations ordered are to be completed and the new crossing opened for use by Nov. 1, 1914.

If the town of Wilton prefers to undertake the work ordered to be done outside the railroad right of way, the order will be modified to permit it, with the understanding that the town bear the entire cost of the work so undertaken.

The petitioner, a regularly organized town in Monroe county, alleges in substance that the Dorsett crossing, located at the intersection of the Wilton-Kendall road and the respondent's line about three miles east of Wilton, is dangerous to public travel and that public safety requires its alteration. The Commission is therefore asked to order the respondent to construct an under-crossing for the highway.

The respondent in its answer alleges that it maintains an electric bell on the crossing in question, and that in view of the light traffic on both the railway and the highway, neither the town nor the railway company should be required to incur the expense of installing an under-crossing. It therefore asks that the complaint be dismissed.

A hearing was held at Wilton on August 11, 1913. *J. G. Graham* appeared for the petitioner and *C. A. Vilas* for the respondent.

The respondent admitted that the crossing is dangerous, but urged that the existing bell protection is adequate under the present conditions of travel. It is therefore necessary to review the testimony relating to the dangerous features of the physical surroundings, except insofar as it has a bearing upon the adequacy of the existing protection.

The "Dorsett crossing" is formed by the intersection of the respondent's line and the Wilton-Kendall road about three miles east of Wilton. The highway descends from south to north and the railway descends from east to west on a grade of about one per cent. The angle of crossing is about 65 degrees. The view of trains from both highway approaches is very much obstructed by high ground and by trees. The limits of vision are reported by our engineer as follows:

Distance of point of observation in highway from track.	View east.	View west.
South 50 feet	100 feet	100 feet
" 100 "	100 "	50 "
" 200 "	100 "	40 "
" 300 "	75 "	30 "
North 50 "	150 "	200 "
" 100 "	40 "	75 "
" 200 "	40 "	75 "
" 300 "	40 "	75 "

The danger caused by the obstructions to the view is accentuated by the inability of travelers on the highway to hear a train approaching from the east. This was said to be due in part to the topography and in part to the fact that westbound trains usually approach this crossing with steam shut off on account of the down grade. Specific instances were cited in which travelers have come very close to the track without hearing an approaching westbound train.

The Wilton-Kendall road is a portion of the main traveled highway which leads from Madison to Baraboo, Elroy and Sparta, and is a part of the state system of highways. A witness estimated that as many as sixty-five teams occasionally use the crossing in a day, and that the daily average throughout the year would approximate twenty-five teams. It was said that some automobiles cross during the summer, and that a number of pedestrians, including five or six school children, regularly use the crossing. On February 18, 1913, the Commission's engineer counted sixteen teams in the three and one-half hours elaps-

ing between 12:15 p. m. and 3:45 p. m. The respondent admits in its answer that the average traffic on the highway amounts to about forty-five teams, two automobiles and two pedestrians per day. There are eight regular train movements over the crossing.

Several fatal accidents occurred at the Dorsett crossing prior to the installation of the bell in 1898. Since then there have been one fatality and a number of narrow escapes. Subsequent to the last fatal accident, which occurred in February 1913, the company installed another bell with an illuminated sign for night indication. Witnesses testified that the new bell has failed to work properly, ringing at times when no train is near and failing to ring when a train is approaching. The superintendent stated that the new bell is modern and that it is frequently inspected and kept in good working order. In his opinion it affords adequate protection.

The company's engineer presented at the hearing estimates covering the cost of installing an underground crossing 620 feet west of the existing crossing, or an overhead highway bridge 190 feet west (A), or 370 feet east (B) of the existing crossing. The cost of either alteration would be, according to his estimates, about $10,000. He said that to construct an under-crossing with a proper clearance would necessitate carrying the road under the tracks at such a low level that it would be subject to overflow at high water.

Our engineering staff has made a careful survey of the conditions in the vicinity of the Dorsett crossing, and has considered in detail the three methods of grade separation suggested at the hearing, and also the further projects of an overhead bridge or a subway at the present site. Subsequent to the hearing the company submitted detailed estimates of the three proposals considered at the hearing. The total cost of grade separation, as shown by the Commission's estimates and the company's estimates, is as follows:

Plan.	Company's estimate.	Commission's estimate.
Overhead Bridge		
1. At present site	[1]	$11,000
2. 190 feet west	$10,700	11,200
3. 370 feet east	10,300	10,300
Under-Crossing.		
1. At present site	[1]	14 900
2. About 600 feet west	10,600	11,170

[1]Not estimated by company.

Our engineer regards the construction of an under-crossing about six hundred feet west of the present side as the most desirable solution, and this view is concurred in by an engineer of the Wisconsin highway commission who made a personal inspection of the situation. The plan for this subway contemplates a lateral clearance of at least twenty-four feet, and a vertical clearance of at least thirteen feet above the surface of the roadway, which is to be not more than six inches below the level of the top of the flooring on the existing bridges over the Kickapoo creek. The plan also provides for the connection of the new subway with the existing highway by a new road extending south from the subway on a line approximately at right angles to the track, and by a new road extending north from the subway over a new bridge across the Kickapoo creek for a distance of about two hundred feet and thence running northeast to a point just north of the existing highway bridge over the Kickapoo creek. In the opinion of our engineer such a subway can be constructed without creating objectionable conditions during periods of high water. It will also improve the condition of the highway by reducing the grade of approach to a maximum of three per cent, instead of an average of more than six per cent as at present.

In the light of the testimony and of the reports of our engineering staff we find that the crossing under consideration is unusually dangerous and that the existing protection is inadequate. It is our judgment that public safety requires the separation of grades at this point, and we believe that the construction of an under-crossing about six hundred feet west of the present side, as recommended by our engineer, is the best solution available. This crossing is on a main traveled road which is a part of the system of the state highways and upon which traffic is sure to increase. In view of its extremely dangerous surround-

ings and the accidents which have occurred there, the present opportunity to eliminate it should be taken advantage of by both the town and the railway company. Inasmuch as the change will entail considerable work outside of the right of way, and since the condition of the road will be materially improved thereby, we regard as equitable an apportionment of the cost whereby the town of Wilton shall bear 25 per cent and the railway company 75 per cent of the actual expenses. These proportions represent approximately our engineer's estimate of the cost within and without the lines of the railway right of way, namely $8,200 within the right of way lines and $2,970 outside of them. The respondent will be directed to make the alterations ordered, but if the town prefers to undertake the work outside of the right of way, this order will be so modified upon proper application, with the understanding that the town bear the entire cost of the work so undertaken.

IT IS THEREFORE ORDERED, That the respondent, the Chicago & North Western Railway Company, construct and maintain an under-highway crossing on its line about six hundred feet west of the existing Dorsett crossing located about three miles east of Wilton in Monroe county, which shall have a lateral clearance of at least twenty-four feet and a vertical clearance of at least thirteen feet, the finished surface of the road at the center of the subway to be not more than six inches lower than the floor surface of the existing highway bridge over the Kickapoo creek, and construct a new highway extending south from said subway on a line approximately at right angles to the track to a connection with the existing highway, and a new highway extending north thereof on a line approximately at right angles to the track over a suitable new bridge across the Kickapoo creek for a distance of about 200 feet and thence in a northeasterly direction to a connection with the existing highway just north of the existing bridge over the Kickapoo creek, such new highways to conform in quality of construction to the existing highway, plans to be submitted to the Commission for approval.

IT IS FURTHER ORDERED, That said respondent railway company furnish all materials and labor, perform all work and acquire all land necessary in making the alterations ordered herein; and that upon the completion of this work it furnish the Commission a complete and detailed account of all expenses incurred by it therein; whereupon the Commission, with or with-

out further hearing as may be deemed best, will determine the actual cost of changing the highway and of the under-crossing; and the town of Wilton shall thereupon pay to the said railway company 25 per cent of the cost as so determined by the Commission, and the said respondent railway company shall bear 75 per cent thereof.

IT IS FURTHER ORDERED, That when the under-crossing ordered herein shall be completed and open for public travel, the portion of the highway now crossing the railway at grade between the right of way lines be closed, and the said respondent railway company is hereby directed to enclose said highway with continuous fences so that it cannot be used by the public.

November 1, 1914, is considered a reasonable date at which the alterations ordered herein shall be completed and the new crossing opened for the use of the public.

A. B. WHITEIS ET AL.

vs.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY.

Submitted Feb. 19, 1914. Decided April 15, 1914.

The petitioners allege that the station facilities furnished by the respondent at Reserve, Sawyer county, are inadequate and ask that the respondent be required to maintain and keep open a freight and passenger station and employ a regular agent at Reserve. The respondent is willing to build a separate house for its section foreman and to devote the station building now occupied by him to the exclusive use of passengers and the storage of freight. This is satisfactory to the petitioners and the only question for decision therefore is whether the services of a regular station agent are required.

Held: In view of the amount of freight and passenger business transacted and the fact that there is but one train a day into Reserve, the employment of a regular station agent is not warranted at the present time. A competent caretaker should, however, be employed to keep the station clean, warm and lighted and to open it at least twenty minutes before the train arrives and until it departs, as required by sec. 1797—9 of the statutes as amended by ch. 616, laws of 1913.

The respondent is ordered to provide a station building at Reserve which shall be adequate for its freight and passenger business, and to employ a competent caretaker who shall keep the station properly cleaned, heated and lighted and open for the use of the public at least twenty minutes before the arrival of trains and until their departure. The station is to be open for public use by July 1, 1914.

The petition, which is signed by thirty-three residents of Reserve in Sawyer county, alleges in substance that the station facilities furnished by the Minneapolis, St. Paul & Sault Ste. Marie Railway Company at Reserve are inadequate. The Commission is therefore asked to require the respondent to maintain and keep open a freight and passenger station and employ a regular agent at Reserve.

The respondent, in its answer, states that it is willing to erect a new house for the section foreman as soon as possible in the spring, and devote the building now occupied by him to the exclusive use of passengers and the storage of freight. It denies that there is any necessity for an agent at Reserve.

A hearing was held on February 19, 1914, at Reserve, *A. B. Whiteis* appearing for the petitioners and *Kenneth Taylor* for the respondent.

Counsel for the respondent stated at the hearing that the company is willing to build a separate house for its section foreman in the spring, so that the station building now occupied by him can be used to accommodate freight and passenger traffic, and that it is willing to have the station opened at train time, properly heated during the winter months and lighted when necessary. The company also offered to install a bill box where shippers can leave shipping bills for the attention of the train conductor, and receive them without being compelled to wait for the train. The representative of the petitioners stated that the building now occupied by the section foreman would be sufficient for the freight and passenger traffic, if used exclusively for that purpose. It is therefore unnecessary to comment upon the testimony relative to the need for a station building, and the only question for decision is whether the services of a regular station agent are required.

The testimony shows that Reserve is the terminus of a branch line over which one train a day in each direction is operated. The train is scheduled to arrive at Reserve at 3:25 p. m. and to leave on the return trip ten minutes later. When it is late, as is frequently the case, it leaves for the return trip as soon as the unloading and loading can be completed. A witness estimated that about six hundred people live within one mile of the station and that from eight hundred to one thousand people are tributary to Reserve, some of them traveling twelve or fifteen miles to take the train. The traffic at Reserve is heavier in the summer than at other seasons of the year, because of the fact that a number of summer homes and several club houses are reached from this station. The respondent submitted at the hearing a statement of its freight and passenger business at Reserve for a year, which has been summarized in the following table:

Month.	Number of outbound passengers.	Revenue from outbound passengers.	Freight revenue,		
			Carload.	Less than carload.	Total.
December 1912	42	$20 92	$26 40	$76 54	$102 94
January 1913	33	16 05	47 00	50 02	97 02
February 1913	29	15 72	47 01	47 10	94 11
March 1913	53	21 60	....	63 19	63 19
April 1913	75	36 40	157 15	70 72	227 87
May 1913	66	24 20	560 24	111 75	671 99
June 1913	88	40 96	52 40	124 09	176 49
July 1913	157	73 19	29 74	135 48	165 22
August 1913	188	100 74	.....	151 27	151 27
September 1913	202	130 40	.....	86 51	86 51
October 1913	48	26 14	.....	113 87	113 87
November 1913	33	19 26	36 00	64 83	100 83
Total	1,014	$525 58	$955 94	$1,095 87	$2,051 31

Having in mind the fact that there is but one train a day into Reserve, and considering the amount of freight and passenger business transacted, it is our judgment that the employment of a regular station agent as prayed for is not warranted at the present time. However, a competent caretaker should be employed to keep the station clean, warm and lighted, and to open it at least twenty minutes before the train arrives and until it departs, in accordance with sec. 1797—9 of the statutes as amended by ch. 616 of the laws of 1913.

IT IS THEREFORE ORDERED, That the respondent, the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, provide a station building at Reserve which shall be adequate for its freight and passenger business, and employ a competent caretaker who shall keep the station properly cleaned, heated and lighted, and open for the use of the public at least twenty minutes before the arrival of trains and until the departure thereof.

July 1, 1914, is considered a reasonable date at which the station shall be open for the use of the public.

TOWN OF CROSS PLAINS

vs.

CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF THE SECOND SCHULENBERG, THE BOLLENBECK, AND JOHN SCHOEPP HIGHWAY CROSSINGS ON THE LINE OF THE CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY IN THE TOWN OF CROSS PLAINS.

Decided April 15, 1914.

Complaint was made by the town of Cross Plains that three crossings on the respondent's line, designated as the Second Schulenberg crossing, the Bollenbeck crossing and the John Schoepp crossing, were dangerous. A hearing was held and the relocation of the highways and the substitution of two less obstructed grade crossings for the three existing ones was suggested, but, inasmuch as the Commission was not at that time empowered to order such a change, the matter was left open for informal adjustment. Such authority, however, was subsequently conferred upon the Commission by ch. 603, laws of 1913, and, since the proposed improvements had not been effected, the Commission investigated the matter on its own motion. The plan for the relocation of the highways is again considered.

Held: The crossings require further protection. In view of the fact that the Bollenbeck and Schoepp crossings cannot be entirely eliminated but would necessarily be used by farmers as private crossings, the advantages to be gained by the proposed relocation of the highways at these two crossings would be largely offset by the additional danger to which the farmers in question would be subjected. Bell protection will adequately safeguard these crossings under existing traffic conditions. The highway at the Second Schulenberg crossing should, however, be relocated.

It is ordered: (1) that the respondent install and maintain at the Bollenbeck crossing and at the John Schoepp crossing an electric bell with illuminated sign, plans to be submitted for approval; (2) that the respondent construct a new crossing at grade about 470 feet northwest of the Second Schulenberg crossing and relocate the highway as specified; (3) that the town of Cross Plains pay to the respondent 10 per cent of the cost of the alterations ordered as determined by the Commission, the remainder of the cost to be borne by the respondent; and (4) that when the alterations ordered are completed and the new crossing opened for public travel, that portion of the highway now crossing the railway track at grade within the right of way lines at the Second Schulenberg crossing be closed to the public and enclosed by the respondent with continuous fences. Ninety days is considered a reasonable time within which to comply with this order.

This matter was brought before the Commission by a complaint filed by the town of Cross Plains, alleging that three highway crossings on the line of the Chicago, Milwaukee & St. Paul Railway Company, designated as the Second Schulenberg crossing, the Bollenbeck crossing, and the John Schoepp crossing are dangerous to public travel.

The respondent, in its answer, asks the dismissal of the complaint.

A hearing was held at Madison on May 14, 1912, *Adolph Birrenkott* appearing for the petitioner and *W. J. Underwood* for the respondent. At this hearing a relocation of the highways and the substitution of two less obstructed grade crossings for the three existing ones was suggested, and inasmuch as the Commission was not at that time empowered to order such a change, the matter was left open for informal adjustment. Such authority, however, was conferred upon the Commission by ch. 603 of the laws of 1913, and since the proposed improvements had not been effected, a hearing was duly ordered and held on motion of the Commission at Cross Plains on December 6, 1913. *Fred Schulenberg* appeared for the town of Cross Plains, and *N. P. Thurber* for the Chicago, Milwaukee & St. Paul Railway Company. At this hearing the testimony taken upon the original complaint of the town was introduced without objection.

The Second Schulenberg Crossing.

The Second Schulenberg crossing is located about three miles east of Cross Plains station. The railway runs northwest and southeast, and the highway east and west, the angle of crossing being acute. The testimony shows that from the east highway approach the view to the northwest is partially obstructed by trees and brush, and the view to the southeast by trees and by the bank of a cut which is from five to seven feet deep, and which extends about one hundred and fifty feet southeast from the crossing. The northwest highway approach ascends to the track. The low position of the highway to the west, in connection with the bank of the cut and trees on the land adjacent to the right of way, makes it impossible to see a train to the southeast until a traveler is within about twenty-five feet of the rail. To the northeast the view from this approach is comparatively unobstructed, since the track is on a fill.

The highway is a main traveled road leading from Madison to Prairie du Chien, and is a part of the state system of highways. Witnesses estimated the average daily traffic at from forty to sixty teams and from ten to fifteen automobiles. A count made from the company on December 1, 1913, from 6 a. m. to 7 p. m. shows twelve teams, one automobile and one pedestrian. Six regular passenger trains and five regular freight trains are scheduled on this division. A fatal accident occurred at this crossing on February 3, 1912.

The Bollenbeck Crossing.

This is the first crossing west of the Second Schulenberg crossing. The railway runs northwest and southeast and the highway approximately north and south. The railway is on a fill southeast of the crossing and the view in that direction is comparatively unobstructed from both highway approaches. To the northwest, however, the track lies in a deep cut which extends almost to the edge of the roadway, and the view of trains from either approach is cut off until a traveler is within twenty feet of the rail.

The highway connects with the Madison-Prairie du Chien road a short distance south of the crossing, and leads to Ashton on the north. Although it is not heavily traveled, it is regularly used by a number of farmers when they go to points in the northern part of the town of Middleton. A witness estimated the average traffic at less than ten teams a day, but stated that several school children regularly cross there. A count made for the company from 6 a. m. to 7 p. m. on December 1, 1913, shows four teams and seven pedestrians. Railway traffic is similar to that noted with reference to the Second Schulenberg crossing. A narrow escape was described by a witness.

The John Schoepp Crossing.

This is the first crossing northwest of the Bollenbeck Crossing. The highway parallels the track from the southeast, turns due north across the railway right of way, and again parallels the track for some distance to the northwest. The view of trains to the northwest is comparatively unobstructed from both highway approaches. To the southeast the view is badly obstructed by the banks of a cut through which the track curves. The

north bank slopes back into a hill. Witnesses testified that from either highway approach a train cannot be seen to the southeast until a traveler is very close to the rail.

The opinion was expressed by witnesses that highway travel at this point is very similar to that at the Second Schulenberg crossing, but the traffic count made for the railway company shows that a considerable portion of the travel which uses the Schoepp crossing does not cross at the other. The superintendent explained that many travelers turn south on a branch road which leaves the Madison-Prairie du Chien road between the Second Schulenberg and Bollenbeck crossings. The count referred to, which was taken on December 1, 1913, between 6 a. m. and 7 p. m., shows fifty-two teams, one automobile and eighteen pedestrians. Railway traffic is the same as that noted with reference to the Second Schulenberg crossing.

The company takes the position that the Second Schulenberg crossing can be made reasonably safe by grading away a portion of the obstructing banks east of the crossing and using the waste material to elevate the west highway approach so as to afford a more unobstructed view of trains. The representative of the Wisconsin highway commission suggested that the highway be straightened in connection with this grading. Our engineer is of the opinion that these changes would result in a satisfactory view of trains, if the trees south of the crossing and adjacent to the right of way are also removed. However, he points out that the crossing would still be an acute angle, which he regards as a condition to be avoided wherever possible.

Since it is admitted that the Bollenbeck crossing is very slightly traveled, the company takes the position that the expense of installing protection there is not warranted. Our engineer regards some protection as necessary.

The plan for relocation suggested at the hearings contemplates the closing of the Second Schulenberg and Bollenbeck crossings and the substitution therefor a new grade crossing about 470 feet northwest of the Second Schulenberg crossing, the highway being relocated along the north side of the track for this distance. The road which now intersects the track at the Bollenbeck crossing would, under this plan, be connected with the new crossing by a new north and south highway about nine hundred feet in length. Our engineer estimates that the new north and south road would cost $870 and that the remainder of the work

would cost approximately $635, making a total of $1,505 for the entire improvement. Since the land on both sides of the right of way at the Bollenbeck crossing is owned by a farmer who is obliged to cross the track frequently in the course of his farm work, it would be necessary to retain this crossing for his private use.

With reference to the John Schoepp crossing, it was proposed to continue the highway along the south side of the right of way to a new grade crossing located far enough from the cut to allow a more unobstructed view. Some difference of opinion was expressed as to how far northwest of the present site the new crossing should be located. The town chairman stated that a farm house stands north of the track and about four hundred feet west of the crossing, and suggested that if the crossing is relocated, it should be placed about opposite this house. The company's engineer submitted a plan which contemplates the opening of a new crossing about 850 feet northwest of the present site. The Wisconsin highway commission suggests that the new crossing be constructed about 1,300 feet northwest of the existing one. Neither of these locations appears to be ideal, and it is very doubtful whether the change would obviate the necessity of some protective device at the new crossing. Moreover, the existing dangerous crossing would have to be retained as a private crossing if either of the two latter proposals were adopted.

In the light of the testimony and the reports of our engineering staff, we find that each of the crossings under consideration is more than ordinarily dangerous, and that further protection is necessary. In view of the fact that the Bollenbeck and Schoepp crossings cannot be entirely eliminated, and that they would necessarily be used by farmers as private crossings, the advantages to be gained by relocation would be largely offset by the additional danger to which these farmers would be subjected. In our judgment the installation of electric bells will adequately safeguard these crossings under the existing traffic conditions and will protect both the public and the residents of the adjacent land. The conditions at the Second Schulenberg crossing would, without question, be improved by the grading suggested by the company and the representative of the Wisconsin highway commission, but we feel that a bell would be necessary even with this grading, on account of the acuteness of the

angle of crossing and the presence of obstructing woods on private land in the southeast corner. The highway can be continued along the north side of the right of way for about 470 feet, as proposed, to a new crossing at right angles, at a cost of approximately $635, which is not materially greater than the cost of grading the existing crossing and installing a bell. We regard this solution as the best under the circumstances, since it will provide a right angle crossing with an almost unobstructed view of trains. In our opinion the town should bear 10 per cent of the cost of this relocation, and the railway company 90 per cent thereof.

IT IS THEREFORE ORDERED, That the Chicago, Milwaukee & St. Paul Railway Company install and maintain at the Bollenbeck crossing and at the John Schoepp crossing in the town of Cross Plains an automatic electric bell with an illuminated sign for night indication, plans to be submitted to the Commission for approval.

IT IS FURTHER ORDERED, That said railway company construct a new crossing at grade about 470 feet northwest of the Second Schulenberg crossing in the town of Cross Plains, extend the highway along the north side of the railway right of way to a connection therewith, and provide a suitable connection with the existing highway south thereof, the newly constructed portions of the highway to be properly drained and surfaced and to have a roadway available for travel twenty feet in width, increasing to twenty-four feet within the right of way lines.

IT IS FURTHER ORDERED, That said railway company furnish all materials and labor, perform all of the work, and acquire all of the land necessary in making the alterations ordered herein; and that upon the completion of this work it furnish the Commission with a complete and detailed account of all expenses incurred by it therein, whereupon the Commission, with or without further hearing as may be deemed best, will determine the actual cost of such alterations; and the town of Cross Plains shall thereupon pay to the said railway company 10 per cent of the cost as so determined by the Commission, and 90 per cent thereof shall be borne by the said railway company.

IT IS FURTHER ORDERED, That when the alterations ordered herein shall be completed and the new crossing opened for public travel, that portion of the highway now crossing the railway

track at grade within the right of way lines at the Second Schulenberg crossing be closed to public travel, and the said railway company is hereby directed to enclose said portion of the highway with continuous fences so that it cannot be used by the public.

Ninety days is considered a reasonable time within which to comply with this order.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF THE SERVICE OF THE STEVENS POINT LIGHTING COMPANY.

IN RE APPLICATION OF THE STEVENS POINT LIGHTING COMPANY FOR AUTHORITY TO INCREASE RATES.

Submitted Oct. 3, 1913. Decided April 15, 1914.

Two separate actions are involved in this case: (1) the Commission, on its own motion, investigated the gas and electric service rendered by the Stevens Point Ltg. Co.; and (2) the company applied for authority to increase its rates for electric service.

With respect to the matter of service, it appears that the utility has at no time fully complied with the rules of the Commission concerning standards of service. The utility has failed specifically to comply with the rules prescribed in *In re Standards for Gas and Electric Service*, 1913, 12 W. R. C. R. 418, for the making of periodic tests of gas and electric meters and the keeping of records of such tests, the keeping of station records and the control of voltage variation in electric utilities. The utility has, however, largely removed the main causes of complaint, voltage variation and "line drop", by the rehabilitation of its distribution system.

With respect to the matter of electric rates, the utility alleges that its present power schedule is discriminatory because it permits long hour consumers to obtain current at an excessively low rate and asks for an increase in rates to power consumers, even though it be necessary to decrease lighting rates to offset the increased revenues derived from a higher power schedule. The utility secures its power from the Stevens Point Power Co., but inasmuch as the utility is the sole customer of the power company and the two companies have identical personnels of owners and executives, it appears that the companies are but nominally separate entities. A valuation of the properties of the two companies was made and the revenues and expenses of the electric department of the utility were investigated. The expenses in question were apportioned between capacity and output and further apportioned among municipal street lighting, commercial lighting, and power, and the unit costs were ascertained. The rate now exacted by the utility for current supplied for commercial lighting is 13½ cts. per kw-hr., minimum bill 50 cts., although the utility has a schedule on file with the Commission providing for reductions to 12 cts. per kw-hr. for the second 100 kw-hr., 11 cts. per kw-hr. for the third 100 kw-hr. and 10 cts. for all current used in excess of 300 kw-hr. No explanation of this unauthorized increase in rates is given. A schedule of rates believed to be reasonable is constructed and its probable effects on various sized installations in each classification of consumers determined. The estimates of revenues to be received under the schedule suggested, when summarized and compared with the present reve-

nues, show a general reduction in revenues amounting to 13 per cent.

The failure of a utility to make allowance for depreciation if the earnings have been sufficient is tantamount to a withdrawal of capital from the business and the cost of reproduction new must be diminished in determining the fair value upon which the reasonable return allowed is to be based when an adequate reserve for depreciation has not been provided. The utility is, however, entitled to earn an amount sufficient to offset future depreciation. In the instant case 4 per cent on the cost new is allowed as an operating expense to cover depreciation.

An excessively low book charge for power supplied by one of two interdependent companies to the other is not necessarily conclusive on the Commission, for the Commission can no more recognize such a charge as proper than it could an unreasonably high book charge. A revision of the power expense to meet the existing conditions is therefore made in the instant case.

A public utility which possesses an especially economical source of supply is not entitled to retain the entire saving effected by it but a portion of the saving should be given to the public in the form of lower rates.

Held: 1. Although the utility has improved conditions in its effort to comply with service regulations, its compliance with these regulations is still unsatisfactory with respect to the making of meter tests and the keeping of the records of these tests.

2. The rates exacted by the utility for commercial electric lighting and power service are unjustly discriminatory as between long hour and short hour users, and the charges made for street lighting are excessive.

The utility is ordered: (1) to conform within sixty days to the service rules which it has been violating and to all others set forth in *In re Standards for Gas and Electric Service*, 1913, 12 W. R. C. R. 418; and (2) to put into effect a schedule of electric rates prescribed by the Commission for commercial lighting, power and street lighting. The rate ordered for street lighting is to become effective only when the city of Stevens Point has filed notice with the Commission and the utility of its acceptance of a contract providing for the service of ninety or more lamps.

The present case involves two separate actions, one concerning service and one concerning rates. The Commission on February 27, 1913, ordered, on its own motion, an investigation of the service rendered by the Stevens Point Lighting Company. On March 4 following, the company filed an application for an increase in rates for electric current. A valuation of the property was therefore made and on October 3, 1913, the whole matter came up for hearing in Madison. *Jas. Mainland,* superintendent, and *F. J. Natwick* appeared for the company. No appearances were made in opposition to the petition for an increase in rates.

The motion to investigate the services at Stevens Point was a direct result of an inspection made by the engineering staff of the Commission, and includes both the gas and electric depart-

ments. The two chief complaints against the electric service were abnormal variations in voltage and "line drop." Some steps towards improving existing conditions had been made previous to the investigation. It developed at the hearing that material for rehabilitation of parts of the distribution system had been purchased but that the undertaking had been delayed because of agitation for an underground system in the down-town district. The changes contemplated were adequate to remedy the poor service rendered in respect to voltage variation and "line drop." The policy of the company in regard to meter testing and station records seemed to be otherwise than as prescribed by the Commission.

As to the application for an increase of rates, the testimony shows that the company feels the present schedule to be inadequate to cover the varying situations. The company believes the schedule to be discriminatory because it permits long hour consumers to obtain current at an exceedingly low rate that does not recompense the company for the service rendered. An increase in power rates is accordingly asked, for which the company is willing to accept a decrease in lighting rates to offset the increased revenues derived from a higher power schedule.

THE SITUATION AT STEVENS POINT.

The Stevens Point Lighting Company supplies the city of Stevens Point with electricity supplied to it, in turn, by the Stevens Point Power Company. The latter company operates a hydraulic plant at Jordan, some few miles distant, but delivery of current to the distributing company appears to be off the generators, since no operating or maintaining expenses of transmission and transformation appear on the books of the power company. The distinction between the two companies as separate entities is more nominal than real, since the personnel of owners and executives of the one is identical with that of the other.

The annual reports of the lighting company since 1908 show an annual expenditure of $5,500 for current purchased. No records of consumption have been kept but it is known that the annual output of the generating plant has steadily increased towards its capacity. Thus the unit price per kilowatt-hour purchased has steadily decreased. The basis of such a rate is not

clear. A further discussion of this follows under power generating costs where it is more pertinent.

I. SERVICE.

At no time has the Commission received from the Stevens Point Lighting Company an adequate response to its rules in regard to service regulation. Inspections have necessarily been frequent, but little progress had been made up to the time the Commission ordered an investigation of the service rendered by the company. Some mention has been made previously of the gist of the testimony taken at the hearing.

The following rules as prescribed in *In re Standards for Gas and Electric Service,* 1913, 12 W. R. C. R. 418, have been specifically violated.

Gas Department.

PERIODIC TESTS.

"Rule 2. Each gas service meter shall be tested before installation and shall be removed, tested and overhauled at least once every forty-eight months, and adjusted whenever it is found to be incorrect. At least two consecutive test runs must be made which agree within one-half of one per cent."

The most recent inspection indicates that ninety meters are now overdue for test.

METER TEST RECORDS.

"Rule 3. Whenever a gas service meter is tested the original test record shall be kept indicating the information necessary for identifying the meter, the reason for making the test, the reading of the meter before being disturbed and the accuracy of measurement, together with all data taken at the time of the test. This record must be sufficiently complete to permit the convenient checking of the methods employed and the calculations. A record shall also be kept, numerically arranged, indicating approximately when the meter was purchased, its size, its identification, its various places of installation with dates of installation and removal, and the dates and general results of all tests."

Although the company has recognized the desirability of such records, no steps have been taken toward the installation of a system. Unless a record of previous tests on each meter is available, it is impossible to make a complete periodic meter test.

Electric Department.

PERIODIC TESTS.

"Rule 17. Each watt-hour meter shall be tested according to the following schedule * * *

"Single phase, induction type meters having current capacities not exceeding 50 amperes, shall be tested at least once every twenty-four months and as much oftener as the results obtained shall warrant.

"All single phase induction type meters having current capacities exceeding 50 amperes and all polyphase and commutator type meters having voltage ratings not exceeding 250 volts and current capacities not exceeding 50 amperes shall be tested at least once every twelve months.

"All other watt-hour meters shall be tested at least once every six months.

"In no case shall commutator type meters having heavy moving elements and sapphire jewels be allowed to make more than 1,000,000 revolutions between tests. Where meters are found to register considerably in error when tested on the above schedule the Commission reserves the right to order the particular meter or class of meters tested more frequently."

Although the company was delinquent in respect to the above rule at the time of the hearing, at present the periodic meter testing appears to be kept up in a satisfactory manner.

METER TEST RECORDS.

"Rule 18. Whenever an electricity meter is tested the original test record shall be kept indicating the information necessary for identifying the meter, the reasons for making the test, the reading of the meter before being disturbed, a statement regarding creepage and the accuracy of measurement together with all data taken at the time of the test. This record must be sufficiently complete to permit the convenient checking of the methods and the calculations. All utilities having more than 250 electricity meters in service shall maintain a meter record, numerically arranged, indicating approximately when the meter was purchased, its identification, its various places of installation with dates of installation and removal, and the dates and general results of all tests, and shall tabulate the results of tests according to types of meters and intervals of test, compiled monthly and annually."

Conditions with respect to electric meter records are the same as with gas meter records and the same discussion applies here.

STATION RECORDS.

"Rule 24. Each utility furnishing electric service shall keep a record of the time of starting and shutting down power station equipment and feeders together with the indication of the principal switchboard instruments at sufficiently frequent intervals to show the characteristics of the load."

The keeping of a daily station log sheet is of primary importance. Such a sheet should furnish a daily record of output for different classes of service and should also indicate the demands made upon the plant at frequent intervals. These data are essential if the utility professes to return a complete and adequate annual report to the Commission.

VOLTAGE VARIATION.

"Rule 25. Each electric utility operating in a city having a population of 1,500 or more shall adopt a standard voltage for the entire constant potential system and shall maintain the voltage within three per cent of such standard on all lighting circuits during lighting hours; on power circuits and during other than lighting hours the voltage shall be maintained within ten per cent of the standard. All other electric utilities shall maintain their voltage regulation on all constant potential circuits during lighting hours so that the maximum voltage furnished any consumer shall not be more than six per cent above the minimum voltage at that consumer's cut-out."

The failure of the utility to keep within the above rule is attributable in part to the delay of reconstruction work caused by agitation for an underground system down-town. The progress made up to the time of the last inspection is indicated by the following memorandum submitted at that time:

"The voltage regulation has been materially improved by changes on the distribution system although in one of the localities where records were taken the voltage dropped abnormally low. Further changes are being made and it is probable that when these are completed the service will be satisfactory. During the last inspection ice trouble at the plant caused practically a shut-down on the system from 7:30 to 8:15 p. m. After the steam plant was started the voltage was carried somewhat low, but service was maintained until the ice was cleared away. The following material has been used on rearrangement of the distribution system within the past few months: 3,000 ft. No. 1 wire, 1,000 ft. No. 2 wire, 5,400 ft. No. 4 wire, 12,100 ft. No. 6 wire, 275 cross-arms, 18 new poles, as well as a number of

changes in transformers. There are still a number of corner poles where the arrangement of wires is not entirely satisfactory. When these are changed, it is proposed to increase the voltage on the primary circuit to 2,300, which will materially improve the regulation on the system, as it will greatly reduce the primary losses. It is contemplated that this work will be completed by March 15."

VOLTAGE SURVEYS.

"Rule 26. Each utility furnishing electric service shall provide itself with one or more portable indicating voltmeters and each utility serving more than 250 consumers shall have one or more portable graphic recording voltmeters, these instruments to be of a type and capacity suited to the voltage supplied. Each of the utilities shall make a sufficient number of voltage surveys to indicate the service furnished from each transformer and feeder and to satisfy the Commission of its compliance with the voltage requirements, and those having graphic recording voltmeters shall keep at least one of these voltmeters in continuous service at the plant, office or some consumer's premises. All voltage records are to be kept open for public inspection."

The inspector reports that "voltage surveys have not been made as required, but the manager has stated that this survey will be started as soon as another graphic recording instrument can be purchased and delivered."

Although the decision *In re Standards for Gas and Electric Service,* 1913, 12 W. R. C. R. 418, superseding former standards laid down on July 24, 1908, in 2 W. R. C. R. 632, in conformity to sec. 1797*m*—23, ch. 499, laws of 1907, formally orders that the above rules be adhered to, a specific order pertaining to the rules violated may make their application in the instant case more clear.

II. RATES.

Schedule.

The Stevens Point Lighting Company, petitioner as to the matter of rates, has charged the following rates:

Commercial Lighting
Minimum, 50 cts.
13½ cts. per kw-hr. for current consumed.

Commercial Power
Minimum monthly charge $1.00 per h. p. per month
Maximum monthly charge $3.00 per h. p. per month
4 cts. per kw-hr. between these rates.

Street Lighting

7.5 amp. a. c. series enclosed arcs on moonlight schedule at $78 per year.

The commercial lighting rates filed with the Commission provide for a reduction of 12 cts. per kw-hr. for the second 100 kw-hr., 11 cts. per kw-hr. for the third, and 10 cts. for all used in excess of the 300 kw-hr. No other rate schedule than this has been authorized by the Commission, nor has the company explained its unauthorized increase in rates.

The commercial power schedule shows a possibility of unlimited use by power users at a certain maximum price per horse power which tends toward an unjust discrimination against small users. The company has recognized this fact in filing its application. A more scientific rate will relieve this condition.

VALUATION.

In view of the interdependent relations sustained by the two companies at Stevens Point the properties have been valued *in toto* by the Commission. The final summary of this appraisal follows as Table I:

TABLE I.

VALUATION OF THE STEVENS POINT LIGHTING & POWER COS.

As of March 30, 1913.

Items of Valuation.	Electric.		Power Company.		Gas.		Total.	
	Cost new.	Present value.	Cost new	Present value.	Cost new.	Present value.	Cost new.	Present value.
A. Land	$635	$635	$1,890	$1,890	$800	$800	$3,325	$3,325
B. Transmission and distributi'n	28,804	$19,298	7,273	5,500	38,840	34,290	74,917	59,088
C. Buildings and miscellaneous structures	9,333	7,861	16,295	13,019	4,848	4,341	30,476	25,221
D. Plant equipment	10,878	4,712	11,634	7,293	23,141	18,480	45,653	30,485
E. General equipment	1,628	1,184	133	93	1,581	1,091	3,342	2,368
Total foregoing	$51,278	$33,690	$37,225	$27,795	$69,210	$59,002	$157,713	$120,487
Add 12 per cent (see note)	6,153	4,043	4,467	3,335	8,305	7,080	18,925	14,458
Total of foregoing	$57,431	$37,733	$41,692	$31,130	$77,515	$66,082	$176,638	$134,9
F. Paving	.....	.....	.....	.....	.....	.....	.....	.....
Total of foregoing	$57,431	$37,733	$41,692	$31,130	$77,515	$66,082	$176,638	$134,945
H. Materials and supplies	1,863	1,852	.....	.....	2,613	2,613	4,476	4,445
Total	$59,294	$39,565	$41,692	$31,130	$80,128	$68,695	$181,114	$139,390

NOTE:—12 per cent to cover engineering, superintendence, interest during construction, contingencies, etc.

BALANCE SHEET.

The balance sheet of the electric department of the Stevens Point Lighting Company for the year ending June 30, 1913, is included here as Table II:

TABLE II.
BALANCE SHEET.
STEVENS POINT LIGHTING COMPANY, ELECTRIC UTILITY.
As of June 30, 1913.

Assets.			*Liabilities.*	
Property and plant:			Capital liabilities:	
Cost beginning of year	$144,163 70		Capital stock common	$52,000 00
Construction and equipment current fiscal year	5,114 44		Funded debt	65,000 00
Cost close of year		$149,278 14	Reserve sinking and special fund liabilities:	
Current assets;			Uncollectible accounts reserve	72 00
Cash		547 61	Current liabilities:	
Notes and bills receivable		20 18	Notes and bills payable	15,674 04
Accounts receivable		5,906 86	Accounts payable	32,118 65
Materials and supplies		371 62	Accrued liabilities:	
Prepaid accounts:			Taxes accrued	413 40
Prepaid insurance		274 15	Unmatured interest on funded debt accrued	1,354 17
Miscellaneous prepaid accounts		12 10	Unmatured interest on notes and bills payable accrued	70 05
Open accounts		636 78		
Deficit		9,654 87		
Total assets		$166,702 31	Total liabilities	$166,702 31

The chief asset of the electric utility shown on the balance sheet is in its property and plant account of $149,278.14. Capital liabilities are: common stock $52,000, funded debt $65,000, or a total of $117,000. The cost of reproduction new of the plant as shown in Table I is $59,264; its present value is $39,565. The variance between actual and capitalized value is so great that little consideration may be given to the book value reported.

It will also be noted that no depreciation reserve is shown among the liabilities. The effect of this omission will be discussed in the determination of the fair value upon which the rate of return is based.

INCOME ACCOUNTS.

A comparative table of income accounts shows the development of the company's electric business since 1909:

TABLE III.

COMPARISON OF INCOME ACCOUNTS, ELECTRIC UTILITY.

STEVENS POINT LIGHTING COMPANY.

Italic figures denote deficits.

	Year ending June 30,				
	1909	1910	1911	1912	1913
OPERATING REVENUES:					
Commercial lighting earnings	$11,255 12	$12,965 95	$13,795 90	$16,919 61	$16,347 72
Municipal contract lighting earnings	4,335 25	5,865 18	6,144 20	6,371 50	6,384 90
Commercial power earnings	....[1]...	....[1]...	....[1]...	....[1]...	5,357 13
Total revenues	$15,590 37	$18,831 13	$19,940 10	$23,291 11	$28,089 75
OPERATING EXPENSES;					
Power	$5,941 90	$6,525 92	$6,855 10	$8,195 20	$6,417 32
Transmission and transformation	.....	.....	760 00	540 00	595 89
Distribution	1,502 02	2,090 38	2,351 24	1,080 30	1,186 49
Consumption	65 37	109 50	60 11	72 82	552 39
Commercial	354 43	353 95	304 66	516 66	374 25
General	2,227 28	2,166 53	2,606 22	2,783 67	2,710 62
Undistributed	313 79	469 06	661 62	816 14	1,389 86
Total of above items	$10,404 79	$11,715 34	$13,598 95	$14,004 79	$13,226 82
Taxes	737 49	846 63	761 62	891 28	830 92
Total operating expenses	$11,142 28	$12,561 97	$14,360 57	$14,896 07	$14,057 74
Net operating revenue	$4,448 09	$6,269 16	$5,579 53	$8,395 04	$14,032 01
Non-operating revenues	.....	172 75	.....	.....	.....
Gross income	$4,448 09	$6,441 91	$5,579 53	$8,395 04	$14,032 01
Deductions from gross income.					
Interest on funded debt	$3,250 00	$3,250 00	$3,250 00	$3,250 00	$3,250 00
Interest on floating debt	2,212 53	2,984 50	2,731 07	3,114 40	3,223 11
Total	$5,462 53	$6,234 50	$5,981 07	$6,364 40	$6,473 11
Net income or deficit	*$1,014 44*	$207 41	*$401 54*	2,030 64	7,558 90
Disposition of net income.					
Surplus for year	*$1,014 44*	$207 41	*$ 01 54*	$2,030 64	$7,558 90
Surplus at beginning of year	*$15,939 19*	*$16,953 63*	*$16,746 22*	*$17,147 76*	*$12,900 05*
Adjustments during year	.....	.....	.....	2,217 07	4,313 72
Surplus at close of year	*$16,953 63*	*$16,746 22*	*$17,147 76*	*$12,900 05*	*$9,654 87*

[1] Included in Commercial lighting earnings.

Inasmuch as no separation of revenues as between lighting and power has been made prior to 1913, the development of these two classes can not be shown. The total revenues, with the exception of 1911, show a marked annual increase. Operating expenses, on the other hand, have not increased proportionately, thus enabling the utility to make a material decrease in its total deficit. The absence of an annual charge for depreciation is also to be noted.

STATISTICS OF PRODUCTION.

In addition to the requirements set forth in the service investigation, the Commission further demands that certain physical data to be submitted in the annual report of the utility. These data are required not only for computation of unit costs, publication of which is prescribed by law, but also for rate investigation purposes when the occasion arises. As a basis for unit costs of service the physical data are highly important, for only through such units can a comparison of all utilities be obtained. In a rate investigation, the accuracy of expense apportionments depends largely on the correctness of physical data on hand.

In the present case it has been impossible to secure all the desired data. The company has no records of output or of demand. In some instances therefore estimates have of necessity been used.

CONSUMPTION.

A summary of commercial power consumption was furnished by the company, but estimates of commercial lighting and of street lighting have been made. As finally apportioned for the purposes of this case, the consumption is as follows:

Class of service	*Per cent*	*Amount*
Commercial lighting	35.2	150,000 kw-hr.
Commercial power	40.0	170,000 "
Street lighting	24.8	105,750 "
Total	100.0	425,750 "

MAXIMUM DEMAND.

The company was able to furnish the maximum demand data requested only as to the plant as a whole. As apportioned between classes of service the maximum demand is as follows:

Class of service	*Amount*	*Per cent*
Commercial lighting	190 kw.	58.5
Commercial power	90 "	27.7
Street lighting	45 "	13.8
Total	325 "	100.0

CONNECTED LOAD.

The total connected load of lighting and power was taken from records furnished by the company and may be summarized thus:

Commercial lighting	522 kw.
Commercial power	225 "
Street lighting	45 "
Total	792 "

CONSUMERS AND METERS.

These data have been secured from the annual report of the company:

Commercial lighting consumers	
Flat rate	7
Metered	535
Total	542
Commercial power consumers	24
Total consumers	566

OPERATING EXPENSE.

The detailed operating expenses of electric service as reported to the Commission are given in Table IV:

TABLE IV.

OPERATING EXPENSES.

Stevens Point Lighting Co. Electric Utility.

For Year Ending June 30, 1913.

Power		
Steam Power Generation		
Maintenance of power plant equipment	$378.07	
Maintenance of power plant buildings, fixtures and grounds	539.25	
Commercial electric current purchased	5,500.00	
Total		$6,417.32
Transmission and Transformation		
Substation and transformer station operating labor	$540.00	
Substation and transformer station supplies and expenses	55.89	
Total		595.89

Bro't forward		$7,013.21
Distribution		
Operation		
Distribution system operating labor	$697.85	
Distribution system supplies and expenses	85.65	
Total operation	$783.50	
Maintenance		
Maintenance of distribution system	$372.06	
Maintenance of transformers	20.10	
Maintenance of meters	10.83	
Total maintenance	$402.99	
Total		1,186.49
Consumption		
Municipal contract lighting		
Trimming and inspecting lamps	$185.00	
Lamp supplies	339.22	
Maintenance of municipal contract lamps	28.17	
Total		552.39
Commercial		
Collection expenses	$374.25	374.25
General		
Operation		
General office salaries	$2,072.45	
General office supplies and expenses	507.69	
Law expenses, general	53.76	
Miscellaneous general expenses	76.72	
Total operation	$2,710.62	
Total		2,710.62
Undistributed		
Insurance	$628.28	
Stationery and printing	71.48	
Operation of utility equipment	686.82	
Maintenance of utility equipment	3.28	
Total		1,389.86
Total of above items		$13,226.82
Taxes		830.92
Total operating expenses		$14,057.74

Generation of Current.

As has been previously indicated, current is purchased from the Stevens Point Power Company at a flat contract rate of $5,500 per annum. The lighting company also maintains an auxiliary steam plant. This, however, contributes only slightly to the total power expense. Estimating the current generated by hydraulic power as 510,000 kw-hr., which is the estimate of con-

sumption given above plus a reasonable percentage for current lost and unaccounted for, it is found that the lighting company is obtaining current at approximately 1 ct. per kw-hr. The average cost of power generation for forty-two Class B electric utilities, using hydraulic, steam or combined methods, is about 2.3 cts. It would seem that on account of the interdependent relations between the two companies no basis for an equitable charge for current had as yet been devised, necessity having forced no issue on that point. Hence it would appear that the book charge, for the purposes of rate investigation, is not necessarily conclusive, and that, on the contrary, the Commission could no more justify an acceptance of such an entry as conclusive, the facts appearing otherwise, than it could recognize as proper an unreasonably high amount merely because such an entry appeared on the books of the company.

If other conditions prevailed at Stevens Point, if the lighting company were but one of several large consumers supplied by the power company, the other large consumers being industrial concerns for whom a power rate must be less than the rate at which they could generate their own current, then a comparative indication would be given of the value of the service. But the lighting company at Stevens Point absorbs the whole output of the power company, so this comparison could not obtain here.

Or, should the lighting company be deprived of its present source of supply and be compelled to rely on other methods of generation, an obvious basis for comparison would be secured. Such an hypothesis has been applied to this situation and shows very clearly that the present source of supply has a value over other methods, a value that is shown by a relative cost delivered to the lighting company.

In such cases it is not always advisable to base the estimate of operating expense upon the narrowed margin of economy and efficiency. To do so deprives the company of an incentive to maintain or advance farther its policies of seeking the lowest cost consistent with the best service. Nor may operating expense be based upon other and more expensive methods of production because of the intervention of regulation. The regulative principle applicable here is that the public, in consideration that it forego competitive conditions in favor of a monopoly, is entitled to a portion of the saving effected. Thus, should com-

petitive conditions without regulation exist at Stevens Point, the present company, by reason of its advantageous source of power supply, would be in a position to meet and overcome competition from a utility whose generating costs must perforce be higher. But in recognizing the undesirability of such conditions, and in granting a sole and exclusive privilege to the present company, the public has sought to further its own welfare and not merely that of a small group of individuals.

Under such conditions, it appears that not more than $3,000 should be allowed to the company for the saving effected by water power operation.

DEPRECIATION.

It appears from the annual reports submitted by the company since 1907 that no allowance has been made for depreciation. This Commission has held that such a practice is tantamount to the withdrawal of capital from the business, if the earnings have been sufficient and that the cost of reproduction new must be diminished in determining the fair value upon which the return shall be based when an adequate reserve for depreciation has not been provided.

The company, however, is entitled to earn an amount sufficient to offset future depreciation, and accordingly an allowance of 4 per cent on the cost new of the plant has been included in the revised table of operating expenses.

INTEREST AND PROFITS.

Working Capital.

Some of those items which under normal circumstances go toward a larger sum for working capital are lacking in the instant case. Current is purchased on a yearly contract basis of $5,500, terms of payment being unknown but probably being on a monthly basis. This, however, is immaterial when the parties between whom the relation of debtor and creditor exists are considered. But where the current is purchased, large generating expenses such as coal and labor are eliminated, reducing the amount of capital which it is necessary to have available. This is also true of power plant supplies. As the present policy of

the company does not include free lamp renewals, the investment in a stock of lamps is thereby saved. The fact that electric appliances are not handled further reduces the amount of working capital necessary. The valuation discloses, under "Materials and supplies," meters, transformers and motors costing $1,863. Under the above conditions $3,000 is considered a reasonable and sufficient amount of working capital.

GOING VALUE.

No evidence was submitted at the hearing on the question of going value nor have the earliest records of the plant been available. Income accounts as submitted since 1907 under the Public Utilities Law, however, show an accumulated deficit. That this may be in part attributed to the cost of developing the business appears reasonable.

Under all circumstances of the case the allowance for going value will be about $6,000.

INTEREST AND PROFITS.

It appears in the instant case that $3,715.60 will be adequate to afford a reasonable return on the fair value of the property as discussed hitherto.

APPORTIONMENT OF EXPENSES.

The activities of an electric plant may be said to be two-fold. In addition to the ordinary function it performs in rendering actual service, each electric plant must stand ready to supply, in theory at least, an amount equal to the total connected load. In practice, however, the actual demand made upon the plant will not be as high as the connected load, due to the diversity of use made of the current supplied. The highest actual demand to which this so-called activity is subjected is known as the maximum demand or peak load. The distinction between the two activities is expressed by the load factor, or percentage of actual generation to the maximum possible generation under continuous operation at the maximum demand figure.

Under these conditions, there are certain expenses or portions of expenses dependent upon the readiness-to-serve feature, and these are commonly known as capacity or fixed expenses, since

they are in no way affected by the use in period of time. On the other hand, other expenses may be due to the quantity of service furnished, and such expenses are known as output, or variable expenses. Capacity expenses will therefore bear a direct relation to the maximum demand while output expenses will be a result of the amount of current generated, or output.

Operating expenses are also apportioned between classes of service in order that each class may be self-supporting and that power users, service to whom is cheaper than to lighting consumers, may not be forced to bear an unjust share of the total expense.

Apportionments on these bases have been made in this case. Table V shows an apportionment between capacity and output of the revised operating expenses. Table VI and VII show a further apportionment of capacity and output expenses among classes of service. A summary of these apportionments appears as Table VIII.

TABLE V.

APPORTIONMENT OF REVISED EXPENSES BETWEEN CAPACITY AND OUTPUT.

Based on Year Ending June 13, 1913.

	Capacity.	Output.	Total.
Power	$4,708 66	$4,708 66	$9,417 32
Transformation and transmission	387 33	208 56	595 89
Distribution	949 19	237 30	1,186 49
Consumption (mun. cont. lighting)	321 79	230 60	552 59
Commercial	187 12	187 13	374 25
Total direct expenses	$6,554 09	$5,572 25	$12,126 34
General	1,465 09	1,245 53	2,710 62
Undistributed	751 22	638 64	1,389 86
Taxes	449 11	381 81	830 92
Total of foregoing	$9,219 51	$7,838 23	$17,057 74
Depreciation	1,241 66	1,055 58	2,297 24
Interest and profits	2,008 28	1,707 32	3,715 60
Total expense	$12,469 45	$10,601 13	$23,070 58

TABLE VI.

APPORTIONMENT OF REVISED CAPACITY EXPENSES BETWEEN CLASSES OF SERVICE.

Based on Year Ending June 30, 1913.

	Municipal street lighting.	Commercial lighting.	Commercial power.	Total.
Power	$649 79	$2,754 57	$1,304 30	$4,708 66
Transmission and transformation	53 45	226 59	107 29	387 33
Distribution	164 12	591 42	193 65	949 19
Consumption (municipal contract ltg)	321 79	.....	.....	321 79
Commercial	.....	173 09	14 03	187 12
Total direct expense	$1,189 15	$3,745 67	$1,619 27	$6,554 09
General	265 18	838 03	361 88	1,465 09
Undistributed	135 97	429 70	185 55	751 22
Taxes	81 29	256 89	110 93	449 11
Total of foregoing	$1,671 59	$5,270 29	$2,277 63	$9,219 51
Depreciation	238 40	772 31	230 95	1,241 66
Interest and profits	385 59	1,249 15	373 54	2,008 28
Total expense	$2,295 58	$7,291 75	$2,882 12	$12,469 45

TABLE VII.

APPORTIONMENT OF REVISED OUTPUT EXPENSES BETWEEN CLASSES OF SERVICE.

Based on Year Ending June 30, 1913.

	Municipa street lighting.	Commercial lighting.	Commercial power.	Total.
Power	$1,167 75	$1,657 45	$1,883 46	$4,708 66
Transmission and transformation	51 73	73 41	83 42	208 56
Distribution	41 47	136 50	59 33	237 30
Consumption (munic.contract lighting)	230 60	.....	.....	230 60
Commercial	.....	173 10	14 03	187 13
Total direct expense	$1,491 55	$2,040 46	$2,010 24	$5,572 25
General	333 81	455 86	455 86	1,245 53
Undistributed	171 16	233 74	233 74	638 64
Taxes	102 33	139 74	139 74	381 81
Total of foregoing	$2,098 85	$2,869 80	$2,869 58	$7,838 23
Depreciation	202 67	656 57	196 34	1,055 58
Interest and profits	327 81	1,061 95	317 56	1,707 32
Total expense	$2 629 33	$4,588 32	$3,383 48	$10,601 13

TABLE VIII.

SUMMARY OF EXPENSE APPORTIONMENTS.

STEVENS POINT LIGHTING COMPANY.

Based on Year Ending June 30, 1913.

Class of service.	Capacity.	Output.	Total.
Commercial lighting	$7,291 75	$4,588 32	$11,880 07
Commercial power	2,882 12	3,383 48	6,265 60
Municipal street lighting	2,295 58	2,629 33	4,924 91
Total	$12,469 45	$10,601 13	$23,070 58

UNIT COST OF SERVICE.

When the component items of Table VIII above are reduced to unit costs according to their respective functions of capacity or demand, and further extended into charts showing the average cost of service, an indication of a reasonable rate appears. These items can now be considered separately under the several classes of service.

COMMERCIAL LIGHTING.

In determining the unit cost for capacity expense, the physical unit used is the active connected kilowatt. Although either the total connected load or the active connected load may be used in this connection, the latter is usually regarded as giving a truer division on the basis of *use*. The principle recognized by the *active* load basis is that a consumer who has additional units in a room for convenience alone will not use his whole load in the same proportion as a consumer who has but a single unit. In the present case the company reports 522 kw. connected. Because no consumer records have been available, an analysis to determine the active percentage has not been made. An estimate based on similar statistics from other companies applied to this situation indicates that 261 kw. should be considered active. As the total capacity expense is $7,291 per year, the expense per active kilowatt per year is $27.93. On a monthly basis this expense is $2.33 and per day it is 7.7 cts. When the use exceeds one hour per day, this unit is proportionally decreased, resulting in a lower cost per kilowatt-hour.

The unit output cost is obtained by dividing the total consumption into the total output expense. There being a consumption of 150,000 kw-hr., and a total expense of $4,588.32, the unit cost is therefore 3.1 cts. per kw-hr.

Charted in a manner showing the average cost per kilowatt-hour, these costs appear in Table IX below:

TABLE IX.

COMMERCIAL LIGHTING. AVERAGE TOTAL COST PER KILOWATT-HOUR.

Hours use daily.	Capacity cost.	Output cost.	Total average cost.
0.5	15.4 cts.	3.1 cts.	18.5 cts.
1	7.7	"	10.8
2	3.9	"	7.0
3	2.6	"	5.7
4	1.9	"	5.0
5	1.5	"	4.6
6	1.3	"	4.4
7	1.1	"	4.2
8	1.0	"	4.1
9	.9	"	4.0
10	.8	"	3.9

The company has been charging 13½ cts. per kw-hr. for all current sold. Under such conditions the long hour user bears an unreasonable share of the capacity expense. A flat meter rate schedule is therefore unjustly discriminatory in favor of short hour users, and in the schedule to be suggested, cognizance will be taken of the decreasing cost of service resultant from increasing daily use of a given connected load.

PROPOSED SCHEDULE.

The cost chart given above indicates the following as a reasonable schedule for lighting service:

Primary, 12 cts. net per kw-hr. for the first 30 kw-hr. or less used per active kilowatt connected.

Secondary, 7 cts. net per kw-hr. for the next 60 kw-hr. or less used per active kilowatt connected.

Excess, 5 cts. per kw-hr. for all current consumed in excess of 90 kw-hr. per active kilowatt connected.

Minimum Bill.

The present schedule includes a minimum monthly charge of 50 cts. The justice of such a charge has been repeatedly upheld

in former decisions; in the present case the amount is very reasonable and will not be changed as a net rate.

Estimated Revenues.

No information is at hand to show very exactly the amount of current that would be paid for at the primary, secondary and excess rates of the schedule suggested above. But from general averages which have been found to be applicable in such cases as this, it is thought that the revenues for lighting sales amounting to 150,000 kw-hr. would be as shown in the following table:

Class.	Per cent.	Kw-hr.	Net rate.	Amount.
Primary	41	61,500	12 cts.	$7,380 00
Secondary	35	52,500	7 cts.	3,675 00
Excess	24	36,000	5 cts.	1,800 00
Total	100	150,000	8.6 cts.	$12,855 00
Additional revenue from minimum bills				300 00
Total estimated revenue				$13,155 00

Comparison of Schedules.

It has not been possible to determine the effect of the lighting schedule on any particular consumers because of the lack of consumer record cards. However, tables have been prepared to show the savings effected by the schedule suggested. These tables have been made to show the effect of long and short periods of use of various sized installations in each classification of consumers. Lighting consumers are commonly classified into three or more groups. Class A includes residences, Class B stores and similar establishments, Class C warehouses and elevators. Other classes are sometimes created to meet special conditions. The theory supporting such a division is that the percentage of the total number of lamps which any one consumer of any one class will use at any given time varies from the percentage of use to which any installation of another class will be put.

TABLE X.

COMPARISON OF PRESENT AND SUGGESTED BILLS.

COMMERCIAL LIGHTING.

Class A Installations.

		500 Watt Installation. 60 per cent active, or 300 watts active.					1000 Watt Installation. 60 per cent of first 500 watts, 33⅓ per cent of balance, active; or 467 watts active.					1500 Watt Installation. 60 per cent of first 500 watts, 33⅓ per cent of balance, active; or 633 watts active.				
		Class.			Am't under schedule suggested.	Am't under present schedule. 13⅓ cts.	Class.			Am't under schedule suggested.	Am't under present schedule. 13⅓ cts.	Class.			Am't under schedule suggested.	Am't under present schedule. 13⅓ cts.
		Primary 12 cts.	Secondary 7 cts.	Excess 5 cts.			Primary 12 cts.	Secondary 7 cts.	Excess 5 cts.			Primary 12 cts.	Secondary 7 cts.	Excess 5 cts.		
First 30 kw-hr. used per active kw. connected.	Consumption	9	.....	.....	9	9	14	.....	.....	14	14	19	.....	.....	19	19
	Amount	$1.08	.....	.....	$1.08	$1.22	$1.68	.....	.....	$1.68	$1.89	$2.28	.....	.....	$2.28	$2.57
45 kw-hr. used per active kw. connected.	Consumption	9	4.5	.....	13.5	13.5	14	7	.....	21	21	19	9.5	.....	28.5	28.5
	Amount	$1.08	$.32	.....	$1.40	$1.82	$1.68	$.49	.....	$2.17	$2.84	$2.28	$.67	.....	$2.95	$3.85
60 kw-hr. used per active kw. connected.	Consumption	9	9	.....	18	18	14	14	.....	28	28	19	19	.....	38	38
	Amount	$1.08	$.63	.....	$1.71	$2.43	$1.68	$.98	.....	$2.66	$3.78	$2.28	$1.33	.....	$3.61	$5.13
90 kw-hr. used per active kw. connected.	Consumption	9	18	.....	27	27	14	28	.....	42	42	19	38	.....	57	57
	Amount	$1.08	$1.26	.....	$2.34	$3.65	$1.68	$1.96	.....	$3.64	$5.67	$2.28	$2.66	.....	$4.94	$7.70
120 kw-hr. used per active kw. connected.	Consumption	9	18	9	36	36	14	28	14	56	56	19	38	19	76	76
	Amount	$1.08	$1.26	$.45	$2.79	$4.86	$1.68	$1.96	$.70	$4.34	$7.56	$2.28	$2.66	$.95	$5.89	$10.26

TABLE XI.

COMPARISON OF PRESENT AND SUGGESTED BILLS. COMMERCIAL LIGHTING.

		Class B Installations. 70% of first 2,500 watts active: 55% of all over 2,500 watts active.										*Class C Installations.* 55% of total installation active.									
		2,000 watts installed, 1,400 watts active.					3,000 watts installed, 1,925 watts active.					1,500 watts installed, 825 watts active.					3,000 watts installed, 1,650 watts active.				
		Class.			Amount under schedule suggested.	Amount under present schedule 13¼ cts.	Class.			Amount under schedule suggested.	Amount under present schedule 13¼ cts.	Class.			Amount under schedule suggested.	Amount under present schedule 13¼ cts.	Class.			Amount under schedule suggested	Amount under present schedule 13¼ cts.
		Primary 12 cts.	Secondary 7 cts.	Excess 5 cts.			Primary 12 cts.	Secondary 7 cts.	Excess 5 cts.			Primary 12 cts.	Secondary 7 cts.	Excess 5 cts.			Primary 12 cts.	Secondary 7 cts.	Excess 5 cts.		
First 30 kw-hr. used per active kw. connected.	Consumption..	42	.....	.....	42	42	58	.....	.....	58	58	25	.....	.....	25	25	49.5	.....	.....	49.5	49.5
	Amount	$5.04	.....	.....	$5.04	$5.67	$6.96	.....	.....	$6.96	$7.83	$3.00	.....	.....	$3.00	$3.38	$5.94	.....	.....	$5.94	$6.68
45 kw-hr. used per active kw. connected.	Consumption..	42	21	.....	63	63	58	29	.....	87	87	25	12	.....	37	37	49.5	25	.....	74.5	74.5
	Amount	$5.04	$1.47	.....	$6.51	$8.51	$6.96	$2.03	.....	$8.99	$11.75	$3.00	.84	.....	$3.84	$5.00	$5.94	$1.75	.....	$7.69	$10.06
60 kw-hr. used per active kw. connected.	Consumption..	42	42	.....	84	84	58	58	.....	116	116	25	25	.....	50	50	49.5	49.5	.....	99	99
	Amount	$5.04	$2.94	.....	$7.98	$11.34	$6.96	$4.06	.....	$11.02	$15.66	$3.00	$1.75	.....	$4.75	$6.75	$5.94	$3.47	.....	$9.41	$13.37
90 kw-hr. used per active kw. connected.	Consumption..	42	84	.....	126	126	58	116	.....	174	174	25	49	.....	74	74	49.5	99	.....	148.5	148.5
	Amount	$5.04	$5.88	.....	$10.92	$17.01	$6.96	$8.12	.....	$15.08	$23.49	$3.00	$3.43	.....	$6.43	$9.99	$5.94	$6.93	.....	$12.87	$20.05
120 kw-hr. used per active kw. connected.	Consumption..	42	84	42	168	168	58	116	57	231	231	25	49	25	99	99	49.5	99	49.5	198	198
	Amount	$5.04	$5.88	$2.10	$13.02	$22.68	$6.96	$8.12	$2.85	$17.93	$31.19	$3.00	$3.43	$1.25	$7.68	$13.37	$5.94	$6.93	$2.48	$15.35	$26.73

Table X shows computations for Class A installations, such as residences, flats, etc. having connected loads of 500, 1,000 and 1,500 watts. The installation of the average residence will be between 500 and 1,000 watts, while an approximation of the bills of large residences will be found under the 1,500 watt computation. The difference between the suggested primary rate and the present rate is 1½ cts. per kw-hr., or a reduction of 11 per cent on primary use alone. A relatively larger reduction is noticed, however, when the use exceeds 30 kw-hr. per active kilowatt connected, at which time the secondary rate becomes effective.

It will be noticed that where the installation exceeds 500 watts, a decreasing percentage of the consumption is charged at the primary rate and a relatively larger amount at the secondary and excess rates.

Table XI discloses the same situation in regard to stores and like establishments, known as Class B, and elevators and warehouses, known as Class C.

COMMERCIAL POWER.

The following table shows the computation of the active connected power load at Stevens Point from records of actual load furnished by the company:

	Connected load in h. p.	Per cent active.	Active connected load in h. p.
First 10 h p.	191	90	172
Next 20 "	65	75	49
Next 30 "	30	60	18
All over 60 h p.	15	50	8
Total	301	82	247

Reference to the apportionment of power expense between capacity and output in foregoing tables will show a capacity charge of $2,882.12. Reduced to a kilowatt basis, the active connected load given above is 184 kilowatts. Following the same method of computing the capacity unit as outlined under commercial lighting, it is found that the annual capacity expense per kilowatt is $15.64. In terms of days, it amounts to 4.28 cts.

The output expense is $3,383.48 and the power consumption is 170,000 kw-hr., hence the output cost per kilowatt hour is 2.00 cts. The decreasing average cost per kilowatt hour is shown by Table XII following:

TABLE XII.

SHOWING DECREASING UNIT COST OF POWER.

Hours use daily.	Capacity cost per kw-hr.	Output cost per kw-hr.	Total cost per kw-hr.
0.5	8.56 cts.	2.00 cts.	10.56 cts.
1	4.28	"	6.28
2	2.14	"	4.14
3	1.43	"	3.43
4	1.07	"	3.07
5	.86	"	2.86
6	.71	"	2.71
7	.61	"	2.61
8	.54	"	2.54
9	.48	"	2.48
10	.43	"	2.43
15	.28	"	2.28

Proposed Schedule.

It is thought that a schedule similar in form to that of commercial lighting will be most suitable for Stevens Point. Such a schedule provides for a gradual decrease in the price per kilowatt hour without being open to the objections found in the present power schedule.

The schedule for power as suggested is:

10 cts. net or 11 cts. gross for the first 15 kw-hr. used per active kilowatt connected per month.

4 cts. net or 5 cts. gross for the next 45 kw-hr. used per active kilowatt connected per month.

2 cts. net or 3 cts. gross for all over 60 kw-hr. used per active kilowatt per month.

Minimum Bill.

In order that the company may be adequately recompensed for its readiness to serve certain large installations which at certain seasons may use very little current, a minimum bill based on the size of the active horse power connected has been deemed advisable in this case. In other towns where there are a multitude of larger consumers having a wide diversity of use, a util-

ity need not keep its capacity near the sum of the different connected loads on the system. A smaller plant, similar to that at Stevens Point, must, however, be constantly ready to serve the two or three larger consumers at the same time. This necessitates that the plant capacity must more nearly approach the total connected load than the capacity of a plant whose consumers have a greater diversity of use. Under these conditions the utility must be allowed to charge the consumer, whose demand has made the added installation necessary, an amount commensurate with the size of the installation. A charge of 50 cts. for the first two active horse power connected, or any part thereof, with an added charge of 25 cts. for each additional horse power, is suggested.

Estimated Power Revenues.

An analysis of power consumption records submitted by the company shows the percentage of consumption falling within each class:

Class.	Kw-hr.	Rate.	Amount.
Primary	23,239	10 cts.	$2,323 90
Secondary	48,467	4 cts.	1,938 68
Excess	98,294	2 cts.	1,965 88
Total	170,000	3.66 cts.	$6,228 46
Additional revenue from minimum bills			75 00
Total estimated revenue			$6,303 46

Comparison of Power Schedules.

Table XIII presents a comparison of present and suggested rates as indicated by the monthly statements. Each item represents a consumer's bill during 1913, the period for which the company submitted its report. In almost all cases in which a reduction is effective it will be noticed that the minimum bill has held up the present rate. Where the total bill has been increased, it has been because of the retarding effect of the maximum rate upon the unit price per kilowatt hour and because the consumption per unit was too small to receive full advantage of the decreasing rates.

TABLE XIII.

COMPARISON OF POWER CONSUMERS' BILLS,

Horse power installed.	Active horse power connected	Bill Computed on Schedule Suggested.								Present bill.	Increase.	Decrease.
		Primary.		Secondary.		Excess.		Total.				
		Kw-hr.	Amount at 10 cts.	Kw-hr.	Amount at 4 cts.	Kw-hr.	Amount at 2 cts.	Kw-hr.	Amount.			
1	0.9	6	$0.60	.....	.....	.....	.....	6	$0.60	$1.00	.....	$0.40
2	1.8	10	1.00	.....	.....	.....	.....	10	1.00	2.00	.....	1.00
		20	2.00	38	$1.52	.....	.....	58	3.52	2.32	$1.20	.....
3	2.7	3	.30	.....	.....	.....	.....	3	[1].68	3.00	.....	2.32
		26	2.60	.....	.....	.....	.....	26	2.60	3.00	.....	.40
		30	3.00	90	3.60	10	$0.20	130	6.80	5.20	1.60	.....
		30	3.00	90	3.60	49	.98	169	7.58	6.76	.82	.....
		30	3.00	90	3.60	65	1.30	185	7.90	7.40	.50	.....
		30	3.09	90	3.60	360	7.20	480	13.80	9.00	4.80	.....
5	4.5	5	.50	.....	.....	.....	.....	5	[1]1.13	5.00	.....	3.87
		50	5.00	51	2.04	.....	.....	101	7.04	5.00	2.04	.....
		50	5.00	151	6.04	464	9.28	665	20.32	15.00	5.32	.....
		50	5.00	151	6.04	632	12.64	833	23.68	15.00	8.68	.....
10	9.0	101	10.10	230	9.20	.....	.....	331	19.30	13.24	6.06	.....
		101	10.10	302	12.08	921	18.42	1,324	40.60	30.00	10.60	.....
		101	10.10	302	12.08	1,074	21.48	1,477	43.66	30.00	13.66	.....
15	12.75	143	14.30	257	10.28	.....	.....	400	24.58	16.00	8.58	.....
		143	14.30	367	14.68	.....	.....	510	28.98	20.40	8.58	.....
		143	14.30	428	17.12	9	.18	580	31.60	23.20	8.40	.....
		143	14.30	428	17.12	299	5.98	960	37.40	38.40	1.00	.....
		143	14.30	428	17.12	1,937	38.74	2,508	70.16	45.00	25.	.....
20	17.0	190	19.00	60	2.40	.....	.....	250	21.40	20.00	1.40	.....
25	20.25	227	22.70	680	27.20	1,083	21.66	2,000	71.56	75.00	.....	3.44
		227	22.70	680	27.20	2,289	45.78	3,196	95.68	75.00	20.68	.....
		227	22.70	680	27.20	2,510	50.20	3,417	100.10	75.00	25.10	.....
		227	22.70	680	27.20	2,814	56.28	3,720	106.18	75.00	31.18	.....
75	49.5	2	.20	.....	.....	.....	.....	2	[1]2.38	75.00	.....	62.62
		554	55.40	1,662	66.48	2,864	57.28	5,080	179.16	203.20	.....	24.04

[1] Minimum bill.

STREET LIGHTING.

The city of Stevens Point pays for eighty-three lamps at the rate of $78 per year. In addition to these, service for seven lamps is furnished free by the company, three more are contracted for by the county and one by the state, making a total of ninety-four lamps in service. The company received $6,384 in 1913 for this service, or an average of $68 per lamp.

Under what conditions free service for seven lamps is furnished the city is not clear. As between the three consumers to whom arc lamp service is rendered, the city, county and state,

it is but equitable to apportion the expense of this free service to the city. It would therefore appear proper to discontinue free service and base a rate on the total service rendered.

Under such conditions, a rate of $54 per lamp per year will return a reasonable profit upon the street lighting investment.

This rate is based on the present moonlight schedule. The revenue to be obtained from this service is estimated at $5.076. This reduces present revenues for this class of service by $1,308.

SUMMARY OF REVENUES.

The estimates of revenues to be received under the schedule suggested, when summarized and compared with the present revenues, show a general reduction in revenues amounting to 13 per cent:

	Estimated revenues.	Present revenue.
Commercial lighting	$13,155 00	$16,347 72
Power	6,303 46	5,357 13
Street lighting	5,076 00	6,384 90
Total	$24,534 46	$28,089 75

SUMMARY.

The Commission has found it difficult to overcome a tendency toward procrastination on the part of the Stevens Point Lighting Company in the matter of service regulation. Conditions have been improved, however, by numerous inspections. The main causes of complaint, voltage variation and "line drop," have been largely removed by a rehabilitated distribution system. Records of meter tests are not kept as yet in a satisfactory manner, but the installation of a workable system is a small matter when compared with other reforms that have been instituted. The company has been allowed ample time to overcome the remaining defects in its operating system.

Rate schedules for both commercial lighting and power service in Stevens Point have been unjustly discriminatory as between long and short hour users. The new schedules are designed to obviate this difficulty.

Existing arrangements as to power purchase between the Stevens Point Lighting Company and the Stevens Point Power Company have been found inadequate to cover the present situation, due to the interdependent relations existing between the two companies. A revision of the power expense has been made to meet the existing conditions.

Physical data necessary for the most accurate consideration of this case have been lacking and estimates have therefore been necessary in some instances. A strict compliance with service regulations has been ordered to remedy this defect.

ORDER.

IT IS THEREFORE ORDERED, That the Stevens Point Lighting Company, respondent in the matter of service investigation, conform specifically to the foregoing rules as enumerated, and in general to all others as set forth *In re Standards for Gas and Electric Service in the State of Wisconsin,* 1913, 12 W. R. C. R. 418.

Sixty days is deemed ample and sufficient time to fulfill this order.

IT IS FURTHER ORDERED, That the Stevens Point Lighting Company, petitioner in the matter of rates, set aside the schedule of rates now in force for the sale of electric current in Stevens Point and substitute therefor the following schedule of rates:

COMMERCIAL LIGHTING.

Minimum bill: 50 cts. net or 60 cts. gross.

Primary rate: 12 cts. net or 13 cts. gross per kw-hr. for the first 30 kw-hr. or less used per active kilowatt connected per month.

Secondary rate: 7 cts. net or 8 cts. gross per kw-hr. for the next 60 kw-hr. or less used per active kilowatt connected per month.

Excess rate: 5 cts. net or 6 cts. gross per kw-hr. for all current used in excess of 90 kw-hr. per active kilowatt connected per month.

"Active connected load" shall be computed according to the following classification of consumers' premises and by the percentages therein specifically designated:

Class A shall include residences, dwellings, flats, private rooming houses, hotels, sanitarium, hospitals and clubs in which meals and rooms are furnished. Where the total connected load is 500 watts or fraction thereof, 60 per cent of such total actual connected load shall be deemed active. Where the installation exceeds 500 watts, 33⅓ per cent of the total installation over and above 500 watts shall be deemed active.

Class B shall consist of banks, offices, both business and professional (including studios, photograph galleries, tailoring establishments, massage and hair dressing parlors), wholesale and retail merchandise establishments, such as art stores, bakeries, book and stationery stores, cigar and tobacco stores, coffee and tea stores, confectionery stores and ice cream parlors, crockery, drygoods and drug stores, electrical supply houses, flower stores (and greenhouses), furniture, clothing, grocery, hardware and harness stores, hay, grain, feed and coal stores and offices, meat markets, milk depots, jewelry, paint and wall paper, piano and music and picture stores, plumbing shops, saloons, pool and billiard halls and card rooms adjoining, shoe stores and shoe repair shops, tailor shops (including dyeing, cleaning and pressing establishments), undertakers, upholsterers, wine and liquor stores, theaters (including moving picture theaters, shooting galleries and other amusement places), corridors and halls in office and apartment buildings upon separate meters, dance and public halls, (including lodges and society rooms), restaurants (including eating places and lunch wagons), depots and public places for the conduct of railroad, express and telephone business, except as specifically excluded by Class C. Where the total connected load in this class is equal to, or less than 2.5 kilowatts, 70 per cent of such load shall be deemed active, for any installation over and above 2.5 kilowatts, that part exceeding 2.5 kilowatts shall be deemed 55 per cent active.

Class C shall consist of state, county and municipal buildings, churches, factories (including such small industrial establishments as machine shops, carpenter shops, blacksmith shops, tin shops and cigar factories), closing not later than 6 p. m., municipal, private and parochial schools, grain warehouses and elevators, freight and storage warehouses, stables and garages, both private, boarding and livery. Of this class, 55 per cent of the total connected load shall be deemed active.

POWER.

Minimum bill: 50 cts. for the first 2 active h. p. connected, or any part thereof, and 25 cts. for each additional active h. p. connected.

Primary rate: 10 cts. net or 11 cts. gross for the first 15 kw-hr. used per active kilowatt connected per month.

Secondary rate: 4 cts. net or 5 cts. gross for the next 45 kw-hr. used per active kilowatt connected per month.

Excess rate: 2 cts. net or 3 cts. gross for all current used in excess of 60 kw-hr. per active kilowatt connected per month.

The active connected horse power load shall be determined as follows:

First	10	h. p. connected	.....	90	per cent active
Next	20	" "	.....	75	" "
Next	30	" "	.....	60	" "
All over	60	" "	.....	50	" "

Discount.

The difference between the gross and net charges shall constitute a discount for prompt payment.

STREET LIGHTING.

The rate per arc lamp per year in the city of Stevens Point shall be $54 for the present style of street lighting, provided that the city of Stevens Point shall contract for the service of ninety or more lamps. This rate shall not become effective until the city of Stevens Point shall have filed notice with the Railway Commission of Wisconsin and the Stevens Point Lighting Company of its acceptance of the ninety lamp provision.

Free service by the Stevens Point Lighting Company shall be abolished.

H. G. DOUGLAS ET AL.
vs.
EQUITABLE ELECTRIC LIGHT COMPANY.

Decided April 21, 1914.

Informal complaints are made against the order issued in this matter July 11, 1913, 12 W. R. C. R. 337. The Commission held an informal conference with the complainants and the utility and re-investigated the matter from the point of view of the additional information disclosed at the conference. It is claimed by certain consumers that the commercial lighting rates fixed by the Commission are such that consumers with large installations now have to pay a much higher average rate per kw-hr. than previously, and by other consumers that the service charge for the use of power is excessive and that it should be eliminated. The city of Lake Geneva contends that the rate ordered for power furnished the city for use over its own street lighting distribution system is excessive when compared with the commercial lighting rate. Since the conference mentioned, the city and the utility have agreed upon a new rate for this service.

Held: 1. The commercial lighting schedule should be modified by the reduction of the excess rate to reduce the average charge per kw-hr. for consumers who use their active load long periods daily; by the reclassification of hotels, sanitariums, hospitals, Y. M. C. A., and clubs in which meals and rooms are furnished to more closely approximate the conditions under which they receive service; and by the establishment of a flat rate or excess indicator rate to provide a schedule for a new class of service not contemplated in the original order.

2. The power schedule should be modified by changing it from a service and energy charge to a primary, secondary and excess schedule of rates to avoid an excessive average rate per kw-hr. when the amount of current consumed is small; by reducing the connected load for power installations in which the capacity of the motor exceeds the possible load, in order to establish an equitable relation to other installations; and by the reduction in the percentage active for heating loads to establish an equitable relation with other classes and to place the rate for this service within the consumer's reach.

3. The rate for current sold to the city of Lake Geneva for street lighting, as now agreed upon between the city and the utility, is reasonable.

The utility is authorized to put into effect a new schedule of rates determined by the Commission.

SUPPLEMENTARY ORDER.

An order was entered, July 11, 1913 (12 W. R. C. R. 337), in the above entitled matter, which is a complaint of H. G. Douglas

el al. against the rates of the Equitable Electric Light Company of Lake Geneva. Several informal complaints have been made against the schedule of rates put into effect by the respondent upon order of the Commission. Accordingly, an informal conference was held at Lake Geneva, February 27, 1914, to ascertain the cause and scope of the objections made to the schedule of rates ordered. The conference was attended by members of the city council and the water and light commission, representatives of the company and of this Commission, and others. The additional information disclosed at this meeting and by a more complete informal investigation leads to the conclusion that some of the objections to the schedule of rates are well founded and that relief should be afforded through a modification of the original order.

Nature of Original Order.

The Commission's order of July 11, 1913 (12 W. R. C. R. 337), reduced the rate for lighting in Lake Geneva about 10 per cent and changed the schedule from a uniform rate per kw.-hr. to a charge dependent upon the length of time during which the consumer's active load is used. This form of schedule conforms to the cost of supplying service. It places the rate for a small lighting installation on the same level as the rate for a large installation for equal use of the load.

Analysis of the cost of operating the business showed that power service had not yielded revenue equal to the entire cost of supplying it. Nevertheless, the Commission did not deem it proper to increase these earnings, but the order did change the form of the power schedule from rates depending upon the number of kilowatt-hours consumed to a service and an energy charge.

The city owns the street lighting distribution system and buys current for its operation at a per kilowatt-hour rate. The investigation of the respondent's operating expenses showed that the cost of this service was equal to the earning from it. Therefore, the rate, which was 9 cts. per kw-hr., was not changed by the Commission.

The order also established a rate for street lighting at Genoa Junction.

OBJECTIONS TO THE ORDER.

The objections made against the new schedule of rates may be generalized as follows:

1. *Commercial Lighting.* The complainants against the lighting rate are a very few users with large installations. They claim that so much of the current used by them falls within the amount that must be paid for at the highest or primary rate that the average rate per kilowatt-hour is much higher under the new schedule than it was before.

2. *Commercial Power.* It is claimed that in many instances the amount of current used for power is so small in comparison with the size of the installations that the service charge is burdensome and causes the average rate per kilowatt-hour for the consumers affected to much exceed what the consumers can afford to pay. It is requested that the service charge be eliminated.

3. *Power for Street Lighting.* Representatives of the city contend that a rate of 9 cts. per kw-hr. is too high for current for street light considering the fact that the city owns and operates the street lighting distribution system. It is also said, in complaint, that the street lighting rate is too high when compared with the commercial lighting rate, in view of the many additional expenses involved in delivering current for commercial purposes to the consumer's premises.

COMMERCIAL LIGHTING.

Investigation of the facts reveals that the causes of the heavy burden falling upon some of the lighting users are two in number. First, the active load has been arrived at by the respondent by assuming that each opening supplies a certain arbitrary connected load while the fact is that the lamps vary much in size. In those instances, therefore, in which the average wattage rating of the lamps is much below the wattage assumed by the respondent, we find that the amounts to be paid for at the primary and secondary rates were placed at a higher figure than they would be if the active load were determined from the actual rating of the lamps. That a correction should be made in this practice of the respondent appears to be self-evident. The bills of many of the consumers would be decreased by the proper

change; others might be increased to some extent. Second, the number of openings, in the case of some consumers, is so large in proportion to the connected load and the diversity of the use of the lamps is so great that the maximum demand is much less than 55 per cent of the load connected. In billing such consumers for service it appears reasonable to determine the amount of current to be paid for at the primary and secondary rates by measurements of the maximum demand. But to require the utility to install maximum demand meters for all users plainly would increase the expense of the business without a commensurate benefit to its consumers as a whole. The particular difficulty appears to be due to the fact that hotels, sanitariums, hospitals and other places of similar character were designated, in the original order, as Class C establishments, while figures of connected load and demand seem to show that, at least in this case, the percentages for Class A are more appropriate. It appears that proper relief may be secured by a reclassification of some installations or by the use of maximum demand meters. A reclassification will therefore be made and the optional use of demand meters, for certain classes, will be provided for in the order.

The earlier opinion of the Commission (12 W. R. C. R., 337, 351) showed that the cost of supplying commercial lighting service varied according to the length of use of the load as shown in Table I:

TABLE I.

VARIABLE COST OF SERVICE.

Commercial Lighting.

Hrs. daily use of active load	Average cost per kw-hr.
1	13.78 cts.
2	9.74 "
3	8.39 "
4	7.72 "
5	7.32 "
6	7.05 "

The net rate was fixed, in the Commission's order, at 14 cts. per kw-hr. for the primary or first 30 hours' use per month of the active load, 12 cts. for the secondary or next 60 hours' use, and 8 cts. for the excess or all use over 90 hours per month. It was shown that the revenue under this schedule would have been about $11,584 which is less than the earnings but equal to the

cost of lighting service for the year ending June 30, 1912. Upon further consideration of the facts, it appears that a still further reduction may be made in the excess rate without materially reducing the company's earnings from the present service. By so reducing the rate, greater inducement would be offered to consumers to use "excess" current, which the company can supply at the lowest terms. The excess rate for lighting will therefore be reduced from 8 cts. to 6 cts. per kw.-hr.

Commercial Power.

The demand which consumers make upon the respondent's service for power for industrial use is not very great but the power business consists to a remarkable degree of service for domestic purposes. Many customers have large installations of electric stoves, heaters, vacuum cleaners, fans or other appliances. The use of almost any of these is not very extensive but, all together, they add considerably to the utility's business. The respondent believes that, because this service is used chiefly during the daylight hours, the business should not be lost and that the rate should be made sufficiently attractive to encourage the use of current for power purposes. This idea has merit as long as the revenue for the service furnishes something above the bare operating expense.

The power schedule ordered by the Commission was unfortunately such as to burden some of the power users with a prohibitive charge when the total number of kilowatt-hours consumed by them was insufficient to shoulder the service charge. But as the respondent's total power revenue was not increased by the new rate, corresponding relief must have been experienced by other consumers.

A few computations of the average charge per kilowatt-hour for various quantities of current consumed by a given load would show very plainly that a service charge plus an energy rate afford gradations in the bill, conforming to the cost of service. The objection to this form of schedule has real foundation, however, when, as indicated in the foregoing paragraph, the use of service is so limited that the cost greatly exceeds what the average consumer can afford to pay for it. This condition may be remedied either by limiting the maximum charge per kilowatt hour or by making the schedule similar in form to the

schedule for lighting service. The latter procedure seems to be most desired by the company and its consumers and will be followed in the instant case.

The expense assignable to power service in Lake Geneva was found to be $3,024, of which $1,218 is a capacity expense and $1,806 an output expense. (12 W. R. C. R. 337, 350.) The details of the computation will not be shown here, but the units representing the decrease of cost per unit of current with the increase of use ar shown in Table II:

TABLE II.

VARIABLE COST OF SERVICE.

Power.

Hours daily use of active load	Average cost per kw-hr.
1	8.16 cts.
2	6.38 "
3	5.79 "
4	5.49 "
5	5.31 "
6	5.19 "
7	5.11 "
8	5.04 "
9	5.00 "
10	4.96 "

The facts thus disclosed indicate that the power rate, if stated in the same form as the lighting schedule, should be as follows:

7.5 cts. per kw-hr. for the first 15 kw-hr. per active kw. per month;

5.5 cts. per kw-hr. for the next 30 kw-hr. per active kw. per month;

3.0 cts. per kw-hr. for all use over 45 kw-hr. per active kw. per hr.

The service charge having been eliminated from the schedule, it appears advisable to revert to the minimum bill of the respondent's earlier schedule. As there appears to be no objection to this, the matter requires no discussion.

STREET LIGHTING.

It was shown in the earlier opinion in this matter that the street lighting revenues, amounting to $2,682 for the year ending June 30, 1912, were practically equaled by the expenses which were $2,621. (12 W. R. C. R. 337, 350.) The total cost consisted of the items shown in Table III:

TABLE III.

STREET LIGHTING EXPENSES.

Item	Total	Amt. per kw-hr.
Generation	$1,330	4.6 cts.
Distribution	177	0.6 "
General and undistributed	463	1.6 "
Taxes	30	0.1 "
Depreciation	251	0.9 "
Interest	158	0.5 "
Rent	212	0.7 "
Total	$2,621	9.0 "

Statistics show that the amount paid for street lighting is usually about 4.5 cts. per kw-hr. for the large or Class A electric utilities and, for Class B utilities, which include the Lake Geneva plant, 5.5 cts. per kw-hr. Generally the street lighting service, which these utilities furnish, requires them to own and operate distribution systems as well as to supply required energy. Therefore the fact that the city gets only current in this instance adds to the appearance of unreasonableness of a rate per kilowatt hour that is much higher than cities usually pay. The higher cost for Lake Geneva can be accounted for to some degree by the fact that the number of hours the street lighting equipment is operated is much less than the average for other cities. The amount of current consumed for street lighting at Lake Geneva is therefore quite small compared with the size of the street lighting load. This is shown by the following table compiled from a special report of 153 electric utilities of Wisconsin:

STREET LIGHTING SCHEDULES.

Kind of schedule.	Average number of hours annually.	Utilities, number.	Per cent.
1. Every night, all night	3,980	65	42.5
2. Moonlight, all night	2,490	30	19.6
3. Every night, dusk to midnight	2,156	18	11.8
4. Moonlight, dusk to midnight	1,446	17	11.1
5. Every night, dusk to midnight, and 5 a. m. to daylight	2,845	2	1.3
6. Moonlight, dusk to midnight, and 5 a. m. to daylight	1,870	2	1.3
7. Moonlight, dusk to 12:30	1,800	2	1.3
8. Moonlight, dusk to 11 p. m.	1,320	5	3.3
9. Miscellaneous	.....	12	7.8
Lake Geneva, moonlight, dusk to midnight	1,340	.....	.....

The result of the comparatively short burning schedule at Lake Geneva is reflected in the character of the street lighting expense. Reference to the analysis of expenses shows that the fixed costs of the Lake Geneva street lighting service exceed considerably the variable costs. It is easy to see that, were the burning period extended to more nearly equal the usual lighting schedule, the rate could be placed at a lower figure.

But the condition discussed above does not entirely account for the higher cost shown by the analysis of expenses. It was pointed out in the earlier opinion that much of the high cost was attributable to the condition and arrangement of plant equipment and the fact that the cost could and probably would be reduced was given consideration in fixing the rate. Under ordinary circumstances, it appears, that the cost of generating this street lighting current would be from about 5.5 to 6.5 cts. per kw-hr. Except for the inefficiency of production that has prevailed in the past the conditions are not so unusual here that the rate should be fixed above the normal cost.

Some consideration has been given to the subject of a longer street lighting schedule. Another subject commanding attention in fixing a rate for service to the city is the possible use of current for pumping the city's water supply. Such service, if rendered at off-peak periods, would tend to reduce the average operating cost per kilowatt-hour in the same way that a longer street lighting schedule would reduce it; and the better the load factor produced by the pumping service, the lower could be the rate to the city. Assuming that the current consumed by the city would amount to 7 or 8 hours' daily use of the city's maximum demand, it appears that the average charge to the city for current for street lighting and pumping could be reduced to about 3.5 cts. per kw-hr. This condition would be met if the following schedule for service delivered at the company's switchboard were put into effect.

Primary, 7 cts. net, 8 cts. gross, per kw-hr. for the first 50 kw-hr. per month per kilowatt of demand;

Secondary, 4 cts. net, 5 cts. gross, per kw-hr. for the next 50 kw-hr. per month per kilowatt of demand;

Excess, 2 cts. net, 3 cts. gross. per kw-hr. for all use over 100 kw-hr. per month per kilowatt of demand.

Under this rate the current for street lighting service, as it is now rendered, would cost approximately 5 cts., per kw-hr. If

street lighting were supplied on a moonlight all night schedule, the cost would be about 3.75 cts. per kw-hr., and if on an every night all night schedule, 3.2 per kw-hr. Any use of current for pumping that would increase the load factor of the service to the city would tend to still further reduce these charges.

We have been informed that the city and the respondent have reached an agreement setting the rate for the present street lighting service at 5 cts. per kw-hr. This is quite close to the average charge under the rate proposed above for this service, but the city probably receives terms a little more favorable, under the rate agreed to, than under the proposed schedule. It appears proper, in this instance, to authorize the rate which has been accepted by both parties.

Flat Rates for Limited Service.

The company has filed with the Commission certain schedules to apply to patrolled service for display lighting and to residence and business lighting where the maximum demand is limited by a controlling device. In these schedules the rates consist of fixed charges based upon the amount of demand contracted for by the customers.

These rates are not inconsistent with the other schedules which the Commission will order. They have already been authorized but will be restated in the order that follows.

SUMMARY.

The investigation made upon informal complaint against the respondent's rates ordered by the Commission July 11, 1913 (12 W. R. C. R. 337), and upon request of the respondent, discloses that certain modifications of that order should be made as follows:

1. The reduction of the excess rate for commercial lighting to reduce the average charge per kilowatt-hour for consumers who use their active load long periods daily.

2. The reclassification of hotels, sanitariums, hospitals, Y. M. C. A., and clubs in which meals and rooms are furnished to more closely approximate the conditions under which they receive service.

3. The establishment of a flat rate or excess indicator rate to

provide a schedule for a new class of service not contemplated in the original order.

4. The change of the power schedule from a service and energy charge to a primary, secondary and excess schedule of rates, to avoid the excessive average rate per kilowatt-hour when the amount of current consumed is small.

5. The reduction in the connected load for power installations in which the capacity of the motor exceeds the possible load, to establish an equitable relation to other installations.

6. The reduction in the percentage active for heating loads to establish an equitable relation with other classes and to place the rate for this service within the consumers' reach.

7. The reduction of the power rate for street lighting to place the charge at about what the service should cost.

IT IS THEREFORE ORDERED, That the Equitable Electric Light Company, respondent, be and the same hereby is authorized to discontinue its present schedules of rates for electric service and place in effect as a substitute therefor the following rate schedules, deemed just and reasonable:

I. COMMERCIAL LIGHTING.

A. City of Lake Geneva.

(a) Meter Rate.

Primary: 14 cts. net, 15 cts. gross, per kw-hr. for the first 30 kw-hr. per month per kilowatt of active load.

Secondary: 12 cts. net, 13 cts. gross, per kw-hr. for the next 60 kw-hr. per month per kilowatt of active load.

Excess: 6 cts. net, 7 cts. gross, per kw-hr. for all in excess of 90 kw-hr. per month per kilowatt of active load.

The difference between gross and net rate shall constitute a discount for prompt payment.

Active load shall be determined as follows:

Class A shall include residences, dwellings, flats, rooming houses, hotels, sanitariums, hospitals, Y. M. C. A., and clubs in which meals and rooms are furnished. In this class 60 per cent of the first 500 watts connected and 33⅓ per cent of all in excess of 500 watts connected shall be deemed active, if the connected load is equivalent to 50 watts or more per opening. If the connected load is equivalent to less than 50 watts per open-

ing, 60 per cent of the first 500 watts connected, 33⅓ of the next 1,500 watts connected, and 20 per cent of all in excess of 2,000 watts connected shall be deemed active.

Class B shall include banks, offices, stores, shops, saloons, billiard and pool halls, depots, theaters, lodge rooms and clubs not includable in Class A. In this class, 70 per cent of the first 2.5 kw. connected and 55 per cent of all in excess of 2.5 kw. connected shall be deemed active.

Class C shall include public buildings, schools, churches, factories, warehouses, stables and garages. In this class, 55 per cent of the total connected load shall be deemed active.

For all lighting installations exceeding 5 kw. connected load, the active load shall, at the consumers' option, be determined by maximum demand meters.

The connected load shall be represented by the total wattage of lamps connected.

The minimum monthly bills for this schedule shall be:

Connected load	Minimum bill
Under 1 kw.	$0.60
From 1 to 2 kw.	0.80
From 2 to 5 kw.	1.25
Over 5 kw.	2.25

(b) Flat Rate or Excess Indicator Rate.

This rate shall apply only to consumers using tungsten lamps exclusively and to contracts for one year. The rate shall apply to the amount of demand contracted for which shall be limited or controlled by an excess indicator.

Residences ..... 1.0 cts. per watt per month

Business places ..... 1.5 cts. per watt per month

There shall be added to all bills the sum of 25 cts. per month which shall constitute a discount for prompt payment.

Minimum monthly bill for this schedule shall be $1.00.

(c) Patrolled Service for Display Lighting.

Patrolled service for window, sign or other display lighting to be turned on at dusk and off at midnight: 1.5 cts. per watt connected.

Discount for prompt payment of bills shall be 10 per cent.

B. Outside of City of Lake Geneva.

15 cts. per kw-hr. for all commercial lighting.

Minimum monthly bills for this schedule shall be:

Connected load	Minimum bill
Under 1 kw.	$0.60
From 1 to 2 kw.	0.80
From 2 to 5 kw.	1.25
Over 5 kw.	2.25

II. Commercial Power.

Primary: 7.5 cts. net, 8.5 cts. gross per kw-hr. for the first 15 kw-hr. per month per kilowatt of active load.

Secondary: 5.5 cts. net, 6.5 cts. gross per kw-hr. for the next 30 kw-hr. per month, per kilowatt of active load.

Excess: 3.0 cts. net, 4.0 cts. gross per kw-hr. for all over 45 kw-hr. per month per kilowatt of active load.

The difference between gross and net rate shall constitute a discount of prompt payment.

The active kilowatts connected shall be determined by multiplying the active horsepower rating by 0.746.

Active load shall be determined as follows:

Power.

90	per cent	of	the	first	10	h. p.	installed	shall be deemed	active.
75	"	"	"		20	h. p.	"	" "	"
60	"	"	"		30	h. p.	"	" "	"
50	"	"	"		60	h. p.	"	" "	"

Except, however, if capacity of the motor exceeds the possible load, *total possible* load in h. p. shall be deemed h. p. connected.

Heating. 20 per cent of the connected load.

If not more than 20 per cent of the connected load is power, the whole shall be deemed heating.

The minimum monthly bill for this schedule shall be $0.75.

III. Street Lighting.

A. Lake Geneva.

The rate for power sold to the city of Lake Geneva for street lighting shall be 5.0 cts. per kw-hr.

B. Genoa Junction.

A charge of $2 per month per 100 watt series tungsten lamp burning approximately 1,350 hours on a midnight moonlight schedule; company to furnish and make lamp renewals.

IN RE APPLICATION OF THE OCONOMOWOC WATER DEPARTMENT FOR AUTHORITY TO INCREASE RATES.

Decided April 21, 1914.

The Water Department of the city of Oconomowoc applies for authority to establish an annual minimum charge of $5. The utility has been exacting this charge for a number of years although, apparently through a misunderstanding it had not filed the charge with the Commission as a part of the original rate schedule. The equitableness of the charge is not questioned, and as there is no reason to believe the charge unreasonable, the application is granted.

Application in this matter was filed with the Commission on February 24, 1914. The hearing was set for April 9, 1914, but no appearances were entered.

This case has arisen from an apparent misunderstanding on the part of the people in charge of the water department of the city of Oconomowoc. The legal rates of the Oconomowoc water utility as filed with the Commission contained no provision for a minimum charge. Some time previous to the filing of the application in this case, information was received from the water department to the effect that an annual minimum charge of $5 had been in use for a number of years and should have been filed as a part of the originl rate schedule. The question of the reasonableness of this minimum charge has not been raised, but the utility was advised to file a formal application for authority to establish this rate in order to avoid any difficulty which might arise.

This application was filed in response to a suggestion made to the city by the Commission. Minimum charges of $5 per year are very common in Wisconsin, and so far as we know, the reasonableness of such charges has in no case been questioned. Although we are not in a position to make a detailed analysis of the costs of this particular utility at the present time, in order to determine accurately what the minimum charge ought to be, we see no reason to believe that the $5 charge would be unrea-

sonable, and the city will be authorized to establish such a minimum.

IT IS THEREFORE ORDERED, That the applicant in this case, the City of Oconomowoc Water Department, be and the same hereby is authorized to establish a minimum charge of $5 per year per consumer. This charge may be made effective immediately.

IN RE PROPOSED EXTENSION OF THE LINES OF THE WISCONSIN TELEPHONE COMPANY IN THE TOWN OF ROCK, ROCK COUNTY, WISCONSIN.

Submitted April 15, 1914. Decided April 23, 1914.

The Wis. Tel. Co. filed notice with the Commission of its intention to extend its line for local service in section 6 in the town of Rock, Rock county. The Rock County Tel. Co. objects to the proposed extension. The Wis. Tel. Co. desires to make the extension, which would be about a quarter of a mile long, for the purpose of serving a subscriber who formerly received service from the Rock County Tel. Co. whose line runs directly past his residence. The subscriber in question states that he discontinued the service of the Rock County Tel. Co. because of its poor quality and the lack of adequate long distance connections.

Where the line of one telephone company already runs on a highway past a residence and is serving that residence or is able to serve it reasonably well, another telephone company ought not usually to be permitted to construct a parallel line on the same highway to reach the residence in question.

The fact that the paralleling of lines proposed would be only a quarter of a mile long does not make such paralleling any less a violation of the statutes.

Held: Public convenience and necessity do not require the proposed extension. If the service rendered by the Rock County Tel. Co. is inadequate the matter should be brought before the Commission in the usual way. The complaint with respect to the long distance connections of the company need not be passed upon here for the reason that there is now pending before the Commission a proceeding against the two telephone companies here involved in which physical connection between them for long distance service is asked.

This case arises upon the notice filed by the Wisconsin Telephone Company with this Commission on March 18, 1914, relating to two proposed extensions of its line for local service in the town of Rock, Rock county. Objection to one of these extensions was made by the Rock County Telephone Company, and a hearing was held in the matter on April 15, 1914, the Wisconsin Telephone Company having waived its right to have the matter determined within twenty days of the filing of its notice. At the hearing, which was held at Janesville, the Wisconsin Telephone Company was represented by *J. F. Krizek,* and the Rock County Telephone Company by *William Ruger.*

One of the extensions proposed by the Wisconsin Telephone Company did not occasion any objection by the Rock County Telephone Company. It is located in section 4 of the town of Rock and the Wisconsin Telephone Company has a line much nearer the point of the proposed service than that of the Rock County Telephone Company. There is no need, as to this extension, for any discussion of the merits of the proposition.

The other extension is in section 6 of the town of Rock, and "is intended to serve the residence on the "Green Cove Farm," owned by John L. Fisher of Janesville. The residence fronts on a north and south road along which the line of the Rock County Telephone Company is now constructed and in service. This line has two subscribers on the same north and south road above Mr. Fisher's residence and one subscriber below it. Mr. Fisher had the Rock County telephone in his house until about April 1, 1914, but decided to change to the Wisconsin Telephone Company's line, and ordered the Rock County instrument removed. Since that time there has been no telephone service in the residence in question. The Wisconsin Telephone Company's line which is proposed to be extended runs along an east and west road and crosses the road on which the Fisher residence is located, about a quarter of a mile south of the house. The proposed extension would therefore cover about a quarter of a mile, or, as the testimony shows, would require the setting of about ten poles. This extension would, of course, proceed upon the same road on which the Rock County line is located.

According to the testimony of Mr. Fisher as introduced at the hearing, one of the main reasons for his discontinuance of the Rock County service was the unsatisfactory kind of treatment he was receiving from that company. He stated that during the entire month of March, 1914, he was unable to get service on the farm and that at other times the service was slow and unsatisfactory and he considered that the company was discriminating against him personally. One ground of his complaint seemed to be that in calling his farm from his city residence it was necessary for him to call first the farm operator and then give that operator the number desired; but the testimony shows that substantially the same practice is followed on the Wisconsin Telephone Company's rural system. Another frequent source of dissatisfaction seemed to have been the busy condition of the farm line, which caused a good deal of difficulty in obtaining service

just when it was desired. It appears that when Mr. Fisher was connected with the Rock County line there were six other subscribers on that line, while the Wisconsin Telephone Company's line which is proposed to be extended now carries ten subscribers.

The Rock County Telephone Company introduced testimony to the effect that that company had done all in its power to give Mr. Fisher good service at the Green Cove Farm. It was testified that Mr. Fisher had always been a fault-finder and the company had made unusual efforts on this account to satisfy him. As to the lack of service during March, it was stated that the cutting over of the company's lines to its new central office, recently completed, had caused some interruption of service.

In addition to his complaint as to the quality of service he was getting over the Rock County line, Mr. Fisher advanced the lack of long distance connection over that line as another reason for his change of lines. It seems that Green Cove Farm is largely devoted to stock breeding and that long distance calls are very frequent between that farm and other places in Wisconsin and adjoining states. The Rock County Telephone Company is connected with an independent toll line company whose lines and connections cover a few neighboring counties, but for reaching such points as Madison, Milwaukee and other more distant places the Rock County line can not be used. There is no physical connection for any purpose whatever between the lines of the two companies. The Wisconsin Telephone Company keeps a Rock County local telephone in its office and when toll calls come in for subscribers of that company this telephone is used to inform them of the call so that they may go to a Bell instrument for their conversation.

It is apparent on the face of things that the proposed extension of the Wisconsin Telephone Company's line will involve a paralleling of the Rock County line on the same highway for a distance of about a quarter of a mile. It is also apparent that the Rock County Telephone Company is in position to give service to the Green Cove Farm, and that the extension of the Wisconsin Telephone Company's line would result in the acquisition by one company of a subscriber lost by the other. In other words, the extension of the Bell line would result in a competition which would not be possible if the extension were not made. Chapter 610 of the laws of 1913 extends to telephone companies the same kind of protection against unnec-

essary competition that had already been given by the state to other public utilities. This is in pursuance of the policy of the law that where reasonably adequate service can be obtained at reasonable rates from one public utility, another public utility shall not be permitted to enter into competition for the same service. The extension of this principle to rural telephone companies has resulted in some complications, owing to the fact that the time the statute was passed rural telephone lines throughout the state were intermingled in such a way that a great deal of paralleling already existed. This Commission has, however, taken the position that where one line already runs on a highway past a residence and is serving that residence or is able to serve it reasonably well, another company ought not usually to be permitted to construct a parallel line on the same highway to reach the residence in question. In other words, public convenience and necessity do not require the duplication of lines in such a case. This situation has arisen several times before the Commission, and permission to parallel has uniformly been refused. *In re Proposed Extension of the Lines of the Ettrick Tel. Co.* 1913, 12 W. R. C. R. 744; *In re Proposed Extension of the Lines of the Clinton Tel. Co.* 1913, 13 W. R. C. R. 166; *In re Proposed Extension of the lines of the West Kewaunee & Western Tel. Co.* 1914, 14 W. R. C. R. 219; *In re Alleged Violation of Chapter 610 of the Laws of 1913 by the Lisbon Tel. Co.* 1914, 14 W. R. C. R. 131.

The complaint of Mr. Fisher as to poor service obtained by him over the Rock County lines seems to relate mainly to an inability to get prompt connection. As far as this is due to the necessity of ringing two operators, the same trouble would necessarily be experienced on the Bell line. As far as it has to do with the number of persons on the line and the frequency of "busy" answers, the situation on the Bell line would also seem to be quite similar. Mr. Fisher testified, in addition, to his absolute inability to get service during a considerable period of time and to what he considered to be unfair discrimination against him in the matter of putting his calls through promptly and accurately. These are matters on which the Commission has power to make the fullest investigation and to take such action as the circumstances require in the way of improving the service and preventing discrimination. The question of service, although usually involved in cases of this kind, is really collateral to the issue, since the law provides a specific procedure

by which such matters may be brought before the Commission. The main question in such a case as this is whether the Rock County Telephone Company is able to give reasonably adequate service at the point in question, and there seems to be nothing in the evidence to indicate that it is not. The company's lines, as far as we are advised, are kept in working order. It has a new and presumably adequate switchboard and other central office equipment, and we have no reason to believe that the standards of its construction and maintenance are not such as to make good service possible on the Green Cove Farm. It must be borne in mind that city service and rural service are not the same, and that a person on a farm line with six or eight other subscribers must expect to find the line busy at times. As this Commission has said in other cases, the proper procedure in case the service is unsatisfactory is to make complaint in the usual way before asking the Commission to apply the more drastic remedy of permitting the entrance of a competing company into the field. *In re Alleged Violation of Chapter 610 of the Laws of 1913 by the Lisbon Tel. Co. supra.*

The matter of long distance connection presents a different question. The evidence shows that there is no physical connection between the two companies and that a person having the Rock County telephone is absolutely unable to send or receive toll calls except over a limited area in which the companies affiliated and connected with the Rock County lines are operating. To a business establishment of the character of the Green Cove Farm this lack of long distance connection is undoubtedly a serious thing. What effect it should be permitted to have on cases of this kind need not be decided, however, for the reason that there is now pending before the Commission and will very shortly be decided a proceeding against the two telephone companies here involved in which physical connection between them for long distance service is asked. It is sufficient to say that upon the decision of this case such relief will be afforded as will obviate the complaint of Mr. Fisher with respect to lack of long distance connection.

It appeared to be the position of the Wisconsin Telephone Company upon the hearing of the case that the paralleling of lines proposed is so short as to be merely a technical violation, if any violation at all, of the principle of the law. We do not agree to this view, however. We believe that a paralleling of a

quarter of a mile is more than a technicality. It would certainly be very difficult for the Commission to permit a quarter of a mile of duplication and then withhold its sanction to a further extension of the same line for another quarter of a mile, and so on. It would also be difficult to forbid one company to parallel for a third or half mile after permitting another company to parallel for a quarter of a mile.

It appears, then, that Mr. Fisher, by reinstating the Rock County telephone can obtain service without causing any paralleling of lines, and there is nothing in the record to indicate that public convenience and necessity require the duplication of lines which would be involved in the proposed extension of the Wisconsin Telephone Company.

Owing to what seemed to be an emergency condition on the Green Cove Farm, caused by the sickness of several persons there, Mr. Fisher on April 17 asked this Commission whether permission might not be given for a temporary extension of the Wisconsin Telephone Company's line upon the fences and trees to his residence, pending the decision of this case. Since the Wisconsin Telephone Company seemed to be willing to accommodate Mr. Fisher to this extent, and also expressed its willingness to take the line down if the decision in this case should be adverse to it, the Commission offered no objection to the furnishing of the temporary service, but stipulated that the building of the temporary line should have no effect whatever upon its decision of the case. It follows from these circumstances that the temporary service is to be discontinued upon receipt by the Wisconsin Telephone Company of this decision.

We therefore find and determine that public convenience and necessity do not require the extnsion of the line of the Wisconsin Telephone Company in section 6 of the town of Rock, Rock county, Wis., in the manner proposed by said company in its notice filed with this Commission on March 18, 1914.

IN RE PROPOSED EXTENSION OF THE LINE OF THE MAYVILLE RURAL TELEPHONE COMPANY IN THE TOWNS OF THERESA AND HERMAN, DODGE COUNTY, WISCONSIN.

Submitted April 21, 1914. Decided April 28, 1914.

The Mayville Rural Tel. Co. filed notice with the Commission of its intention to make certain extensions of its lines in the towns of Theresa and Herman in Dodge county. The Theresa Union Tel. Co. objects to the proposed extensions insofar as the rendering of service to four of the proposed subscribers is concerned. Three of these subscribers reside on the highway on which the line of the objector is in operation and one resides a few rods east of the highway, and therefore still farther away from the line of the Mayville Rural Tel. Co.

The desire of prospective subscribers of a proposed extension of a telephone line to be on the same line as their neighbors so that they may converse without ringing central office does not seem to be a sufficient reason for permitting the duplication of an existing line.

Held: Public convenience and necessity do not require the proposed extensions insofar as such extensions would serve subscribers located along or east of the highway along which the line of the Theresa Union Tel. Co. extends. The extensions proposed to be made west of this highway will be permitted to proceed.

On April 8, 1914, this Commission was notified by the Mayville Rural Telephone Company of proposed extensions to its line in the towns of Theresa and Herman, Dodge county, Wis., and upon the filing of objection by the Theresa Union Telephone Company a hearing was held on the matter at Theresa, on April 21, 1914. The Theresa Union Telephone Company was represented by *Nathan Haessly,* and the Mayville Rural Telephone Company by *H. F. Ringle, F. A. Justmann* and *Albert Zastrow.*

It appears that a number of persons residing in the towns of Theresa and Herman have applied to the Mayville Rural Telephone Company for service and that the latter company in filing its notice with the Commission was acting at the instance of the proposed subscribers and without any desire to encroach unduly in the territory of the Theresa Union Telephone Company. The latter company has a line for local service running north and south through sections 10 and 3 of the town of Herman and

sections 34 and 27 of the town of Theresa. The majority of the proposed subscribers of the Mayville Company reside in territory west of the Theresa Union Telephone Company's line and the latter company makes no objection to the extension of the Mayville Company's line to them. In fact, they are clearly located in the territory of the Mayville company and nearer its lines than those of the Theresa Union Telephone Company. Three of the proposed subscribers, however, live on the north and south highway on which the Theresa line is in operation and one other is very near the highway, being a few rods east of it on a crossroad. The Mayville lines at present are all west of the north and south road on which the Theresa line is built and if extended to the four subscribers just mentioned these lines would parallel the Theresa line for about a mile. If the four subscribers are eliminated from the proposed extension the two companies' lines will not parallel one another at any points involved in this case and the respective territories of the two companies will be well defined.

The Theresa line is apparently able to serve the four persons living on and near the highway which that line serves and there is no occasion for any duplication of the Theresa line by the Mayville company. Subscribers on the Theresa line have free service to Mayville, so that no toll expense is occasioned by the interchange of connection between the two lines. The only reason given at the hearing for any paralleling of the Theresa line is the fact that the farmers located in sections 3 and 34 desire to be on the same line as their neighbors so that they may converse without ringing central office. This does not seem to be a sufficient reason for permitting the duplication of lines proposed here.

One signer of the application for Mayville Rural Telephone Company service resides one and a half miles east of the Theresa line and fully three miles east of the nearest point on the Mayville line. This proposed subscriber is so clearly out of the territory of the Mayville company that we do not presume that company would care to extend to him even if permission were granted. At any rate, it does not seem possible that public convenience and necessity can require the extension of the Mayville line to serve him.

The extensions proposed by the Mayville company west of the road on which the Theresa line is operating will be permitted to

proceed, but those which would serve subscribers residing along that road, on either side, or east of that road, do not appear to be required by public convenience and necessity.

We therefore find and determine that public convenience and necessity do not require the proposed extensions of the Mayville Rural Telephone Company as described in its notice filed with this Commission April 8, 1914, insofar as such extension would serve subscribers living along or east of the north and south highway running through the center of sections 3 of the town of Herman and 34 of the town of Theresa.

IN RE APPLICATION OF THE ETTRICK TELEPHONE COMPANY FOR AUTHORITY TO INCREASE RATES.

Decided April 29, 1914.

The Ettrick Tel. Co. applies for authority to increase its rates. The schedule which the applicant proposes provides a rate for stockholders lower than the rate for nonstockholders.

Held: The applicant is entitled to an increase in rates. The proposed discrimination between stockholders and nonstockholders, however, is illegal. The applicant is authorized to put into effect a schedule fixed by the Commission and applicable to stockholders and nonstockholders alike.

Application in this matter was filed with the Commission on March 26, 1914. The applicant is a public utility operating a telephone system in and around Ettrick, Wis. The present rates are:

To stockholders, $5 per year if paid during the first quarter.

To renters, $6 per year.

The applicant asks for authority to substitute for this schedule the following schedule:

To stockholders, $7 per year.

To renters, $8 per year.

All rentals paid before April 1 of each year to be allowed a $1 discount.

Hearing was set for April 21, 1914, but no appearances were entered.

In this case there is no question as to the inadequacy of the present rates, if the utility is to furnish a reasonable degree of service, and no objection can be made to the proposed rates on the ground of reasonableness of the total revenue which will be derived.

The law, however, prohibits a utility from charging a different rate to stockholders than is charged to nonstockholders or renters. It will be necessary, therefore, to so amend the schedule as to eliminate this illegal feature.

IT IS THEREFORE ORDERED, That the applicant, the Ettrick Telephone Company, be and the same hereby is authorized to

discontinue its present schedule and to substitute therefor the following schedule, applicable to stockholders and nonstockholders alike:

$7 per year per telephone if paid during the first quarter of the year for which payment is due.

$1 per year as a penalty when not paid during the first quarter.

This rate and the penalty must be applied strictly and impartially in order to avoid illegal discrimination.

IN RE APPLICATION OF THE BADGER STATE TELEPHONE AND TELEGRAPH COMPANY FOR AUTHORITY TO INCREASE RATES.

Submitted Feb. 27, 1914. Decided April 29, 1914.

The Badger State Tel. & Teleg. Co. applies for authority to increase its rates for local and rural telephone service at its exchanges in Neillsville and Granton and to adopt new rules to govern the rendering of such service. A valuation of the physical property was made, the property apportioned among the local, rural, toll and switching divisions of the business, and the local and rural property further apportioned between the Neillsville and Granton exchanges. The revenues and expenses of the two exchanges were investigated and the probable revenues from the proposed rates considered.

It is a question open to argument whether the rural patrons of a telephone utility should be charged directly with the full burden of fixed charges on the investment in rural equipment or whether part of these charges should be borne by the classes of local subscribers who are reached by the rural lines.

Held: 1. The rates proposed by the applicant should be approved with the exception of the rate proposed for rural service. This should be placed at $16 rather than $18 per year.

2. The rules proposed by the applicant appear to be reasonable with the exception of certain ones which should be modified. Among others the provision that the applicant will not hold itself liable to furnish party line service unless the line can be kept full to capacity should be rescinded and the applicant should hold itself in readiness to furnish party line service within its exchange limits to all who contract for that service.

The applicant is authorized to put into effect the schedule of rates asked for in its application as modified to include the changes prescribed by the Commission. These rates are to apply only on full metallic service.

This application was dated January 2, 1914. The applicant is a telephone company operating exchange systems in Neillsville and Granton and surrounding rural territory and operating a toll system.

The petition enumerates the rates and rules in effect as follows:

Rates:

Neillsville	
Business telephone—one party	$24.00
Residence telephone—one, two and four party	12.00
Rural telephones—first year	15.00
" " thereafter	12.00
Extension bells	no charge
Long distance sets	3.00
Granton	
Business telephones	18.00
Residence "	12.00
Rural "	12.00
Extension bells	no charge
Long distance sets	3.00
For Neillsville or Marshfield	6.00
Service covering three local exchanges	36.00

Rules:

Phones are installed by the company with the understanding that service will be retained for a period of one year, or else subscriber must bear the cost of installation. Service for short periods at rates to meet each special case. Local service is offered from 6 a. m. to 10 p. m. A fee of 10 cts. will be charged on night calls.

Local rural line service is free to subscribers, only; if a nonsubscriber uses this service a fee of 10 cts. must be collected.

Nonsubscribers should pay a fee of 5 cts. for local service.

A fee to cover the expenses will be charged for the removal of the telephone instrument from its present location to another.

Service bills are payable monthly.

Service will be discontinued for nonpayment of bills.

Subscribers are responsible for all toll originating at their stations.

The subscriber must pay for all careless breakage at his station.

Extra territory rates are not quoted for periods of less than 6 months.

Extra territory privileges do not give any toll line privileges.

The reasons set forth in the application for asking for increased rates are that present rates are insufficient to:

1. Meet the required demands for adequate service.

2. Provide for the sinking funds made necessary by the Public Utilities Act.

3. Provide satisfactory dividends upon the capital invested.

Application is made for authority to abolish all existing rates and rules for exchange service and establish the following rates and rules on the basis of a combined Neillsville and Granton exchange service; the exchange limit at Neillsville to be one mile

from the central office and the exchange limit at Granton to be one-half mile from the central office.

In all cases where common battery service is designated the same shall apply to service in the city of Neillsville and where magneto service is designated the same shall apply to service at Granton.

Rural service shall be designated as "Rural" and shall apply to all stations outside the regular exchange limits.

Business Telephones:		
Common battery, one party, unlimited service..	$30.00	per annum
Common battery, two party, unlimited service..	24.00	"
Magneto (Granton), one party, unlimited service	24.00	"
Extension sets, in same building and for business service only, without listing.....	6.00	"
Extension bells, in same building, ordinary....	1.80	"
Extension bells, in same building, 4" gong.....	3.00	"
Extension bells, in same building, 9" gong.....	9.00	"
Joint user, with consent of subscriber and company and listed.....	12.00	"
Extra listing in directory, same firm and business	1.20	"
Individual line, receiving only.....	12.00	"
Residence Telephones:		
Common battery, one party, unlimited service..	$18.00	"
Common battery, two party, unlimited service..	15.00	"
Common battery, four party, unlimited service.	12.00	"
Magneto (Granton), one party, unlimited service	15.00	"
Extension sets, in same building and for residence service only, without listing.....	4.80	"
Extension bells, same as quoted above.		
Listing nonsubscriber at the residence of a subscriber, with the consent of the subscriber and company, payable quarterly in advance, and listed	4.00	"
Spring jacks: Subscriber must pay installation expense. Rate for three jacks same as for an extension set. Each additional jack....	1.00	"
Rural telephones: unlimited service, outside exchange limits	18.00	"

Employes Service:

The Company does not furnish free service at the home of employes. Service will be furnished to employes who hold responsible positions at the head of some department but will be considered as part of the salary earned.

Institutions not operated for profit.

Charitable institutions, public and parochial schools, armory, public library, churches and fraternal societies will be classed as and carry rates and privileges of individual line residences, except as to joint user privileges.

Rates are quoted for service extending over a period of one year.

Short term contracts will be entered into on the following basis:

Service for three months or less 50% of the annual rate.
Service for six months or less 75% of the annual rate.
Service for nine months or less 90% of the annual rate.
For service over nine months 100% of the annual rate.

The above rates are offered with the understanding that the Company has facilities to provide the service at the location desired.

Extension sets and bells located outside premises will be furnished for regular service at the above rates with a mileage charge of $3.00 per annum for each 1/8 mile or fraction thereof, without listing. Extension sets and bells located out of doors or in the open sheds will be charged for at double the regular rates.

Each main, party and rural telephone shall be entitled to one listing in the directory.

The Company pays the initial expense of installation. The subscriber must pay the expense of any subsequent change in the location of the telephone instrument.

Subscribers may change from a higher class of service to a lower by paying one-half the balance due on the old contract and signing a new contract for a year's service at the lower rate.

Notice of the removal of the telephone instrument shall be in writing.

Extra Equipment:

Extra long cords for desk sets, repair charges	$0.10 per foot
Auxiliary receivers	.10 per month
Desk arm or bracket	.10 per month
Switches, common, for extensions or bells	.10 per month

Penalties:

A penalty of $0.25 will be collected for failure to pay service bill on or before the 16th day of the current month. This penalty shall apply to each main, party and rural telephone. Service will be discontinued for continued neglect to pay service bill.

A deposit or properly signed guarantee will be required from parties who are not known to the Company to be responsible for the payment of service charges.

The company does not hold itself liable to furnish party line service unless the line can be kept full to capacity.

Subscribers who may wish to suspend service for a portion of the year during absence from the community may do so upon payment of one-half the regular net rate for the period of suspension, but in no case shall an allowance be made for a period of less than one month. In all cases the instrument shall remain in place without service and hold its original listing in the directory.

Joint user service shall include any and all service not specified by the main line listing. One main and one joint user may be served on one main line unless the main line subscriber should desire the joint user rate to cover his own additional business.

In order to obtain the rate allowed charitable and public institutions, the applicant must occupy the entire premises and use the service exclusively for the purpose intended. The institution may be required to furnish a written guarantee to cover the above. No joint user rate will be allowed on this class of service.

Service over trunk lines between central offices is free to subscribers only. If nonsubscribers use this service the regular toll fee must be collected.

If nonsubscribers use local service a fee of 5 cts. should be collected and a fee of 10 cts. for rural lines service.

Subscribers are responsible for all toll originating at their stations.

Subscriber must pay for all careless breakage of material at his station.

Hearing was held at Madison on February 27, 1914. *W. L. Smith* appeared for the applicant. There was no appearance in opposition.

From the testimony introduced at the hearing and from data submitted by the utility in connection with this case, as well as from the reports and rate schedules filed by the utility, a number of facts which have a bearing upon the case have been obtained.

It appears that telephone service was installed in Neillsville about 1898 by the Badger State Telephone Company. On May 1, 1901, that company was reorganized and business continued under the name of the Badger State Telephone and Telegraph Company. The present owners acquired possession in 1903. Since then a number of changes have been made in the Neillsville exchange, and it appears that very satisfactory service is being furnished at present. There are a number of rural lines, an exchange in Granton, and about one hundred miles of metallic toll lines.

It is understood that Neillsville local subscribers have the use of the Neillsville exchange, including connecting rural lines, at the exchange rates and that a charge of $6 per year additional is made for connection to Granton. Granton subscribers have the option of paying a message rate to Neillsville or paying a flat rate of $6 per year for the service. Under the rates asked for

by the utility, subscribers would have free, unlimited service over trunk lines connecting central offices.

A valuation of the physical property was made by the Commission as of January 1, 1914. In this valuation the property was divided among the local, rural, toll, and switching divisions. Following is a summary showing the cost new and the present value of the various groups of the property:

VALUATION OF PROPERTY OF
BADGER STATE TELEPHONE AND TELEGRAPH CO.

	Local.		Rural.		Toll.		Switching.		Total.	
	Cost new.	Present value.	Cost new.	Present value.	Cost new.	Present value.	Cost new.	Present value.	Cost new.	Present value.
A. Land	$834	$834	$45	$45	$21	$21	.....	...	$900	$900
B. Distribution system	7,384	4,794	19,220	14,296	9,106	5,207	36	27	35,746	24,324
C. Buildings & miscellaneous structures	170	26	920	137	563	85	17	2	1,670	250
D. Exchange equipment	1,822	1,470	118	86	59	43	41	14	2,040	1,613
E. General equipment	890	526	1,216	526	755	328	22	9	2,883	1,389
Total	$11,100	$7,650	$21,519	$15,090	$10,504	$5,684	$116	$52	$43,239	$28,476
Add 12 per cent (see note below.)	1,332	918	2,582	1,811	1,261	682	14	6	5,189	3,417
Total	$12,432	$8,568	$24,101	$16,901	$11,765	$6,366	$130	$58	$48,428	$31,893
F. Paving	.....	.....	.....	.....	.....	.....	.....	...	.....	.....
Total	$12,432	$8,568	$24,101	$16,901	$11,765	$6,366	$130	$58	$48,428	$31,893
H. Materials & supplies	390	249	918	577	572	362	17	10	1,897	1,198
Total	$12,822	$8,817	$25,019	$17,478	$12,337	$6,728	$147	$68	$50,325	$33,091
J. Non-operating	943	137	136	108	100	55	... ..	....	1,179	300
Total	$13,765	$8,954	$25,155	$17,586	$12,437	$6,783	$147	$68	$51,504	$33,391

NOTE:—Addition of 12 per cent to cover engineering, superintendence, interest during construction, contingencies, etc.

The division of the local and rural property according to the localities served is shown in the following tables:

	Neillsville Local.		Neillsville Rural.	
	Cost new.	Present value.	Cost new.	Present value.
A. Land	$834	$834	$45	$45
B. Distribution system	6,576	4,288	14,117	10,712
C. Buildings and miscellaneous structures	153	24	690	102
D. Exchange equipment	1,633	1,404	88	75
E. General equipment	868	517	911	396
Total	$10,064	$7,067	$15,851	$11,330
Add 12 per cent (see note below)	1,208	848	1,902	1,360
Total	$11,272	$7,915	$17,753	$12,690
F. Paving				
Total	$11,272	$7,915	$17,753	$12,690
H. Materials and supplies	330	214	684	430
Total	$11,602	$8,129	$18 437	$13,120
J. Non-operating	943	137	136	108
Total	$12,545	$8,266	$18,573	$13,228

NOTE:—Addition of 12 per cent to cover engineering, superintendence, interest during construction, contingencies, etc.

	Granton Local.		Granton Rural.	
	Cost new.	Present value.	Cost new.	Present value.
A. Land				
B. Distribution system	$808	$506	$5,103	$3,584
C. Buildings and miscellaneous structures	17	2	230	35
D. Exchange equipment	189	66	30	11
E. General equipment	22	9	305	130
Total	$1,036	$583	$5,668	$3,760
Add 12 per cent (see note below)	124	70	680	451
Total	$1,160	$653	$6.348	$4,211
F. Paving				
Total	$1,160	$653	$6,348	$4,211
H. Materials and supplies	60	35	234	147
Total	$1,220	$688	$6,582	$4,358
J. Non-operating				
Total	$1,220	$688	$6,582	$4,358

NOTE:—Addition of 12 per cent to cover engineering, superintendence, interest during construction, contingencies, etc.

No value has been fixed for certain rights which the company possesses in various villages. These all appear to be rights affecting the toll system and as the matter of toll rates is not involved in this case it does not seem necessary to go into any de-

tail regarding the valuation of the various rights involved. The reports of the utility for the year ended June 30, 1913, show the plant value of the Granton exchange as of that date as $7,292.55 and the plant value of the Neillsville exchange as $29,334.79. As these include the rural property it is clear that the investment as shown by the company's books is not far from the cost new as shown by the Commission's valuation of the physical property.

Interest at 7 per cent on the various valuations available, with the exclusion of non-operating property from the Commission's valuation of physical property, is as follows:

Neillsville exchange:	
On present value of $21,249	$1,487.43
On cost new of $30,039	2,102.73
On book value of $29,334.79	2,053.44
Granton exchange:	
On present value of $5,046	$353.22
On cost new of $7,802	546.14
On book value of $7,292.55	510.48

Depreciation based on the cost new of all property except land and non-operating property is shown below:

Neillsville exchange:	
At 6½ per cent	$1,889.22
At 7 per cent	2,034.55
Granton exchange:	
At 6½ per cent	$507.13
At 7 per cent	546.14

From a consideration of all the facts it appears that a fair allowance for interest and depreciation will be from $4,000 to $4,100 for the Neillsville exchange and from $1,000 to $1,050 for the Granton exchange.

The operating expenses, including taxes but exclusive of any allowance for interest or depreciation, for the year ended June 30, 1913, were $5,211.14 for the Neillsville exchange and $1,952.39 for the Granton exchange. In dividing its operating expenses between toll and exchange systems the utility has charged central office expenses entirely to exchange systems and has credited the exchanges with a portion of the toll earnings, as would have been done if toll lines were owned by another company. Although the effect of this is to make the local central office expenses appear high, if the proper proportion of toll earnings is credited to the exchange systems, the increased expenses will be offset by increased earnings and the amount of expense to be borne by the exchange business will not be affected by the

accounting practice. In this case it appears that the Granton exchange has been credited with 25 per cent of Badger State telephone and telegraph toll system earnings. At Neillsville 15 per cent of the utility's toll system earnings are credited to the exchange system, which is the same percentage which is obtained on originating messages from the Wisconsin Telephone Company's toll system.

With interest and depreciation allowances included, the expenses of the Neillsville exchange would be between $9,211.14 and $9,311.14 and the expenses of the Granton exchange would be between $2,952.39 and $3,002.39.

In this connection it should be noted that the rural property in the Commission's valuation as of January 1, 1914, includes a considerable number of phones in addition to those which were connected on July 1, 1913. In estimating revenues, on the basis of number of subscribers connected on July 1, 1913, this should be taken into consideration, in order that interest may not be allowed on an investment supplying a larger number of subscribers than the number considered in estimating the probable revenue.

In order to compute the probable revenue from the proposed rates it is necessary to make certain assumptions as to the number of subscribers using each class of service. The assumptions made in a statement filed by petitioner appear to be reasonable and are used here with some slight modifications which appear necessary. On the basis of the assumed distribution of subscribers who were connected on June 30, 1913, the probable revenue would be:

Neillsville exchange:	
Business, one party, 70 at $30	$2,100.00
Business, two party, 14 at 24	336.00
Business extension 1 at 6	6.00
Residence, one party, 50 at 18	900.00
Residence, two party, 113 at 15	1,695.00
Residence, four party, 50 at 12	600.00
Rural, 175 at 18	3,150.00
	$8,787.00
Connecting lines	280.52
Miscellaneous	42.22
Non-operating	118.75
	$9,228.49
Rural tolls, night service—pay station	153.25
	$9,381.74

Granton exchange:	
Business—18 at $24	$432.00
Residence—27 at 15	405.00
Rural—99 at 18	1,782.00
	$2,619.00
Connecting lines	452.84
Miscellaneous	10.00
Non-operating	16.50
	$3,098.34
Night service	6.50
	$3,104.84

Revenues from such items as night service would not exist under the proposed rates, but as they would probably be offset by revenues from miscellaneous appliances, they have been included here at the amounts shown for the last year.

An examination of the facts leads us to the conclusion that the rates for service proposed by the applicant should be approved with the exception of the rate for rural service. In disapproving this rate we do not mean to hold that the rate is higher than a full analysis of the costs would justify, with possibly some offsetting reductions in local rates. It is a question, however, which is open to argument, whether the rural patrons should be charged directly with the full burden of fixed charges on the investment in rural equipment or whether part of these charges should be borne by the classes of local subscribers who are reached by these rural lines. In this case, too, it must be noted that subscribers on rural lines have heretofore been paying only $12 per year and that an increase to $18 per year may affect both subscribers and utility seriously. We are aware that the utility has a relatively heavy investment in rural equipment and that under the new rates subscribers will be able to reach both Neillsville and Granton subscribers at the exchange rate, but a full consideration of all the facts leads us to conclude that rates for rural service should be placed at $16 per year.

In approving the other rates asked for by the applicant we wish to call attention to the fact that all subscribers will be given unlimited service over both exchanges, for which they must now pay $6 per year in addition to regular rates. Also free night service is to be given, so that the proposed increases in rates are to be accompanied by decided increases in the service rendered.

All lines are to be metallic and it is understood that a harmonic ringing system is to be installed.

Rules: The rules proposed by the company appear to be reasonable, in general, but there are one or two of them which should be modified.

1. The provision with regard to penalties will be modified because of the change in rural rates from $18 per year to $16, and to reduce the penalty slightly for all subscribers.

2. The provision that the company does not hold itself liable to furnish party line service unless the line can be kept full to capacity should be rescinded and the company should hold itself in readiness to furnish party line service within its exchange limits, to all who contract for that service.

3. We believe that the provisions for charging nonsubscribers 5 cts. per call for local service and 10 cts. per call for rural service should be discontinued except for calls from pay stations. In some cases such charges are proper, but with a well developed telephone business conducted at rates which will yield a reasonable return, the enforcement of such a charge should probably be discontinued, as it will be an inconvenience to subscribers.

Aside from these three provisions, the rules proposed by the utility appear to be reasonable.

IT IS THEREFORE ORDERED, That the applicant in this case, the Badger State Telephone and Telegraph Company, be and the same is hereby authorized to discontinue its present schedule of rates for exchange service and to substitute therefor the schedule of rates asked for in this application, except that the rate for rural service shall be $16 per year if paid in advance during the first month of the quarter. Where payments for rural service are not so made the rate shall be $18 per year.

The rates for local service shall apply when payments are made on or before the 15th of the month for which service is rendered. There shall be a penalty of 15 cts. per month for delinquent payments for local service.

The proposed rules of the applicant requiring payments from nonsubscribers are disapproved except as they apply to service rendered at pay stations and to service over trunk lines between exchanges. The proposed rule providing that the utility need not furnish party line service unless lines can be kept full to capacity is disapproved.

The rate as authorized shall apply only on full metallic service and may be put in effect for such service for the next period succeeding the date of this order for which bills are rendered.

The utility shall fully inform all subscribers of the changes in rates and in the extent of service to which they are entitled.

CURTISS AND WITHEE TELEPHONE COMPANY
vs.
OWEN TELEPHONE COMPANY.

Decided April 29, 1914.

The decision issued in this matter Jan. 5, 1914, 13 W. R. C. R. 538, left for future determination the terms finally to be fixed for the physical connection ordered to be restored between the petitioner and the respondent at the village of Owen. A traffic study of all calls passing through the respondent's exchange at Owen and a valuation of the portion of the respondent's poles, wire and switchboard used by the petitioner have been made for the purpose of determining the costs properly chargeable to the patrons of the petitioner for the service rendered by the respondent. The rates now temporarily in effect under the former order give the petitioner's patrons the option of paying a flat rate of $3 per year, or 10 cts. per message, aside from regular long distance tolls, for the service in question in this proceeding. All of the revenue from the $3 flat rate is retained by the respondent, while the revenue from the 10 ct. message rate is divided in the proportion of 3⅓ cts. to the respondent and 6⅔ cts. to the petitioner.

Held: The flat rate of $3 per phone per year proposed by the respondent for application to all subscribers of the petitioner cannot be approved. The exaction by the petitioner of a 6⅔ cts. charge on each call is somewhat exorbitant for the service rendered by the petitioner to its patrons. A 5 ct. message charge, divided 3 cts. to the respondent and 2 cts. to the petitioner, would be a more nearly proper charge, and would work to the better interests of the patrons using the message rate service. In its other aspects the present arrangement, with slight modifications, will meet the needs of the situation.

It is ordered that the respondent continue to furnish telephone service to the petitioner, on the basis of a $3 flat rate and a 5 ct. message rate combined, as prescribed by the Commission. No charge is to be made for calls from subscribers connected to the respondent's exchange at Owen to the petitioner's subscribers, but the cost of this service is to be considered as included in the regular rates paid by the respondent's subscribers. Charges for long distance service through the respondent's exchange, either to or from the petitioner's subscribers, are in all cases to be the same as the charges made for this service to or from the respondent's subscribers. In case the total revenue received by the respondent from the petitioner's line for any one year amounts to less than $1 per telephone connected to the petitioner's line, the petitioner is to pay the difference between the two amounts to the respondent.

SUPPLEMENTARY ORDER.

This decision is supplementary to a decision issued in the above matter under date of January 5, 1914 (13 W. R. C. R. 538), in which the respondent, the Owen Telephone Company, was ordered to make reconnection of the line in question until such time as the Commission could make further investigation of the matter to the end that a proper basis of settlement might be determined. The following is an extract from the previous decision setting forth various points brought out in the petition and in the testimony given at the hearing held on the matter at the office of the Commission on October 13, 1913:

"The petition in this matter was filed September 2, 1913. The petition sets forth that the petitioner is supplying telephone service in and around the village of Curtiss, and that the Owen Telephone Company is engaged in the telephone business at Owen; that a number of years ago petitioner had telephone lines extended into the village of Owen; that when the Owen Telephone Company was incorporated and began to furnish local service and connection with long distance lines, the Curtiss and Withee Telephone Company and the Owen Telephone Company entered into an agreement, the terms of which are set forth in some detail in the petition and in other portions of these proceedings, but of which the essential parts, for the purpose of this case were: that the Owen Telephone Company should take over all the property of petitioner within the village of Owen, that the Owen Telephone Company should furnish connection to petitioner by means of which petitioner's patrons could reach any telephone upon the Owen Telephone Company's system and also obtain long distance service; that petitioner's patrons should choose one of two methods of paying for this service, these methods being a flat rate of 25 cts. per month or a message rate of 10 cts. per message, aside from regular long distance tolls. In the case of subscribers who chose to pay 25 cts. per month, the Owen Telephone Company received the entire amount, but of the 10 ct. message fees the Owen Telephone Company paid two-thirds to petitioner. For long distance service petitioner received nothing for out-going messages, but for the use of its lines for incoming messages, it received 6⅔ cts. per message.

"The petition also shows that on or about July 16, 1913, the Owen Telephone Company notified the petitioner that thereafter a charge of 25 cts. per month for switching service would be demanded by it for each of petitioner's subscribers and that the message rate would be discontinued, that if this demand were not complied with within thirty days, the connections between the lines of the two companies would be cut; that petitioner re-

fused to comply with this demand and that the Owen Telephone Company, on or about August 18, 1913, severed the connection.

"Petitioner therefore asks for an order requiring the Owen Telephone Company to restore the connection and service between the lines of the parties to this case, and fixing the terms for such connection and service."

As previously stated, the respondent was ordered to reconnect the petitioner's line to the Owen switchboard under the terms of the contract in force at the time of the disconnection, this contract to remain in force until such time as the Commission had opportunity to make a more thorough investigation of the matter. As a result of this investigation, which has now been made, and through various parts of the testimony in the case the following additional facts have been established:

The Owen Telephone Company operates a telephone exchange in the village of Owen and from this exchange serves the following patrons: 72 in the village of Owen; 54 in the village of Withee; 86 rural subscribers connected to its own lines; 36 rural subscribers on lines owned by other companies. The respondent also has long distance connections with both the Badger Telephone Company and the Wisconsin Telephone Company. The "McClure" or "common return" system is used for the village subscribers, while the rural lines are all grounded. The petitioner in this case is a mutual company, the stockholders of which are principally farmers who have organized their company, put up their own line, and, through the contract previously outlined, obtained connection with the respondent's exchange. The petitioner owns and operates but the one line, on which there are 22 subscribers. This line extends east from Owen to the village of Curtiss, in which village a few business phones are connected.

From the testimony in the case and through subsequent statements it has been shown that under the contract in force before the disconnection of the line was made, the total revenue to the respondent from the petitioner was approximately $21 for the year ending August 1, 1913, and that the total gross revenue which the respondent would receive under the proposed flat rate switching charge of $3 per phone per year for every phone on the line would be approximately $66 per year. One of the principal items to be determined, therefore, was the actual cost to the respondent of furnishing the desired service to the petitioner. To obtain this cost, first, a traffic study was made of all calls going through the exchange of the respondent in order that a proper basis for apportionment of the operators' salaries to the serv-

ice required by the petitioner could be arrived at; and second, a valuation was made of that portion of the respondent's poles, wire and switchboard that is used by the petitioner, for the purpose of determining what return the respondent should have from this investment.

TRAFFIC STUDY.

A twenty-four hour traffic study was made on March 26, 1914, at the Owen exchange, in which a record was made of all numbers calling and called during the twenty-four hours. Record was further kept of all "ringback" or "reverse ringing" calls made on each line during the time that the traffic study was being taken in order that some light might be thrown upon the contention of the respondent that a considerable part of the operator's time was taken up with the supervision of the ringback calls upon the petitioner's line. The various steps taken in the compiling of this traffic study have been very similar to those taken in the compilation of the study of Lancaster and Potosi, details of which appear in the decision *In re Application of Farmers' Tel. Co. of Beetown for Authority to Increase Rates and for other Relief*, 1914, 13 W. R. C. R. 540, 566. Only the summary of the study, therefore, will be given here, which is as follows:

SUMMARY OF TRAFFIC STUDY.
OWEN TEL. CO.
March 26, 1914.

Class of service number.	Designation of classes of service.	Total per cent of operator's time to each class of service.	Total telephones to each class of service.	Per cent of operator's time *per telephone* to each class of service.	Total lines to each class of service.	Per cent of operator's time *per line* to each class of service.
1.....	Owen—local	31.36	72	0.44	64	0.50
2.....	Withee—local	12.75	54	.24	21	.61
3.....	Owen Tel. Co.—rural.....	9.90	86	.115	8	1.24
4.....	Foreign rural (Thorpe & Tisdale line).....	1.13	14	.08	1	1.13
5.....	*Curtiss and Withee Tel. Co.*.	1.09	22	.05	1	1.09
6.....	Badger Tel. Co.—toll lines.	1.65	.....	.....	1	1.65
7.....	Wis. Tel. Co.—toll lines....	30.02	.....	.....	2	15.01
8.....	Operator.....	12.10	.....	.....	.....	.....
9.....	Ringback.....	.....	.....	.....	.....	.....
	Total.....	100.00				

NOTE:—The per cent of operator's time devoted to the "ringback" or "reverse ringing" calls (No. 9 class of service) has been charged directly to the class of service originating such calls, hence does not appear separately in the above table. These calls in this case have been weighted at ½ of a local to local call.

The above summary shows that for the day upon which this study was made the per cent of operator's time devoted to the calls of the petitioner's line was 1.09 per cent.

In order to have further data upon which to base judgment the respondent was requested by the Commission to keep a record of all calls over the petitioner's line, both the ringback calls and those going through the central office, for the two days April 9 and 10, 1914. The result of this record indicates that the per cent of operator's time given to this line is probably somewhat higher than is shown by the traffic study made by the Commission.

From all the data at hand it would seem fair to allow 1.75 per cent to cover this item, and this part of the operator's yearly salary will be considered as an expense chargeable to the petitioner's line.

VALUATION OF PHYSICAL PROPERTY.

A small amount of the respondent's physical property is used by the petitioner. A reasonable return upon the value of this property and the cost of operation and maintenance of the property will be allowed by the respondent. The apportioned value of this property is as follows:

ESTIMATE OF APPORTIONED VALUE OF OWEN TEL. CO. PROPERTY USED BY THE CURTISS AND WITHEE TEL. CO.

Item.	Unit.	Quantity.	Unit price.	Cost of reproduction.	Scrap value.	Condition per cent.	Present value.	Per cent to Curtiss & Withee Tel. Co.	Cost of reproduction.	Present value.
40′-7″ cedar poles (stepped)	ea.	3	$12.25	$37	....	61	$23	3.0	$1.11	$0.69
30′-6″ " "	ea.	2	4.93	10	....	61	6	8.0	.80	.48
25′-6″ " "	ea.	10	3.11	31	....	61	19	5.0	1.55	.95
10 pin X arms	ea.	29	1.07	29	....	47	14	4.0	1.16	.56
6 " "	ea.	1	.72	1	....	47	....	14.0	.14	.....
Anchors	ea.	2	4.00	8	....	61	5	8.0	.64	.40
No. 12 iron wire	mi.	.25	12.60	3	....	61	2	100.0	3.00	2.00
50 pr. No. 229 ga. L. C. cable	ft.	35	.18	6	....	90	5	2.0	.12	.10
50 pr. protected terminal	ea.	1	34.63	35	....	90	32	2.0	.70	.64
W. E. No. 1005 manual switchboard 102 drops installed	ea.	1	306.00	306	....	34	104	1.0	3.06	1.04
Total		....	.....	.....	....	.....	.....	.....	$12.28	$6.86
Add 12 per cent (see note)		....	.....	.....	....	.....	.....	.....	1.47	.82
Total		....	.....	.....	....	.....	.....	.....	$13.75	$7.68

NOTE:—Add 12 per cent to cover engineering, superintendence, interest during construction, contingencies, etc.

EXPENSE CHARGEABLE TO SWITCHING OF CURTISS AND WITHEE TELEPHONE COMPANY'S LINE.

Total operating labor—$672.00	
1.75 per cent of $672.00	$11.76
Central office operation and maintenance.	
1 line at $0.50 per line	.50
Wire plant operation and maintenance.	
¼ mile at $12.00 per mile	3.00
Interest at 7 per cent on $8.50[1]	.59
Depreciation at 7 per cent on $13.75	.96
Total expense	$16.81

The cost of keeping a record of message rate calls is included here, being provided for by the weighting factor applied to these calls.

REVENUE FROM LINE.

As has been previously stated, the total return from the petitioner's line for the year ending August 1, 1913, was approximately $21. During this year, according to a statement submitted by the respondent, there was a total of $14 collected from the flat rate charge of $3 per telephone per year and $7 from toll charges. Taking all of the facts into consideration, it would seem that the respondent has been receiving, under the existing contract, approximately sufficient revenue from this line to cover the expense of its operation, hence the flat rate of $3 per phone per year as proposed by the respondent for application to all subscribers cannot be approved.

The next step is to look into the merits of the contract under which the two companies are at present operating. The essential features of this contract, so far as revenues are concerned, are as follows: the petitioner's patrons have the option of paying to the respondent $3 per year as a flat rate switching charge which entitles them to free in and out calls through the respondent's exchange, all of which revenue is retained by the respondent; or they may pay for each call through the respondent's exchange at 10 cts. per call, the revenue from each call in this case being divided 3⅓ cts. to the respondent and 6⅔ cts. to the petitioner. All calls from the respondent's subscribers to the petitioner's subscribers are free.

Such a schedule does not seem to be entirely fair to the vari-

[1] It would seem that $8.50 is a fair value of the property upon which the respondent should be allowed a return.

ous patrons of the petitioner's line. The exaction by the petitioner of a 6⅔ cts. charge on each call seems somewhat exorbitant for the service rendered by the petitioner to its patrons. It is believed that a 5 ct. message charge divided 3 cts. to the respondent and 2 cts. to the petitioner will be a more nearly proper charge, and will work to the better interests of the patrons using the message rate service. In its other aspects the present arrangement, with slight modification as indicated in the following order, seems to meet the needs of the situation.

NOW, THEREFORE, IT IS ORDERED, That the Owen Telephone Company, respondent in this case, continue to furnish telephone service to the Curtiss and Withee Telephone Company, petitioner, on the following basis:

1. No charge shall be made for calls from subscribers connected to the respondent's exchange at Owen to the petitioner's subscribers. The cost of this service is considered to be included in the regular rates paid by these subscribers.

2. The petitioner's subscribers may have the option (*a*) of paying to the respondent a flat rate of $3 per year per telephone and being entitled to unlimited service through the respondent's exchange to subscribers connected directly with that exchange; or (*b*) of paying a 5 ct. toll charge for each call sent through the respondent's exchange to subscribers connected directly with that exchange. The division of the toll charge between the two companies shall be 3 cts. to the respondent and 2 cts. to the petitioner.

3. The petitioner's patrons shall elect the class of service desired for periods of not less than six months.

4. Statements covering the amounts due the respondent for the flat rate switching service and tolls shall be submitted by the respondent to the petitioner at regular intervals, preferably every quarter year, and shall be paid by the petitioner within one month from date or be subject to a penalty of 10 per cent of the unpaid portion of the bill. The statement of the respondent covering the amount of toll charges shall be itemized, showing for each call the name of party making call, name of party called, date of call and whatever additional information is necessary to make the charge clear.

5. Charges for long distance service through the respondent's exchange, either to or from the petitioner's subscribers, shall in

all cases be the same as the charges made for this service to or from the respondent's subscribers.

6. In case the total revenue received by the respondent from the petitioner's line for any one year amounts to less than $1 per telephone connected to the petitioner's line, the difference between the two amounts shall be paid by the petitioner to the respondent.

IN RE APPLICATION OF THE RIPON UNITED TELEPHONE COMPANY FOR AUTHORITY TO INCREASE ITS RATES.

Submitted April 6, 1914. Decided April 30, 1914.

The Ripon United Tel. Co. applies for authority to increase its rates for telephone service furnished from its exchange in the city of Ripon and to abolish certain charges now in effect for service from Ripon to rural subscribers. The utility proposes to effect improvements in its equipment which will increase its investment and thereby increase the value upon which it should be allowed to earn. The charges which the utility desires to abolish are a charge of 10 cts. per message for communication from the city to a rural phone and the alternative charge of 25 cts. per month for unlimited service from the city to rural phones. No such charges are made for communication from rural phones to the city. The value upon which the utility is entitled to a return was computed upon the basis of a valuation made in July, 1913, for purposes of stock issuance, the cost of improvements since made and the cost of the improvements now proposed by the utility, and the revenues and expenses were investigated.

Held: 1. An increase in rates is necessary if the city of Ripon is to be given the advantage of the improved service proposed by the utility.

2. The message and flat rate charges to city subscribers for the use of the rural lines should be abolished.

The utility is authorized: (1) to discontinue the message and flat rate charges in question; and (2) to put into effect, upon completion of the improvements proposed to be made in the equipment of the utility, a schedule of rates determined by the Commission.

This application was filed on March 12, 1914. The applicant is a public service corporation engaged in the business of furnishing telephone service from its exchange in Ripon to the residents of that city and of the surrounding territory within an area of seven miles radius.

The applicant is the successor of the Ripon Telephone Company and of the Ripon Rural Telephone Company, having purchased the property of those concerns in June, 1912. At that time a valuation of $25,800 was placed on the property by this Commission.

The application states that the system of the company is what is known as a magneto system, and that a considerable portion of

the plant and equipment within the city of Ripon and almost the entire rural system is what is known as "metallic." It is the plan of the management to change the city system over to the common battery system. To do this will require the investment of considerable additional capital, and the company asks for authority to issue additional capital stock to provide for the increased capital and for permission to increase its rates 50 cts. on business phones and 25 cts. on residence phones, and to abolish certain existing charges for services from the city to rural subscribers.

Hearing was held at the office of the Commission on April 6, 1914. *S. M. Pedrick,* secretary, and *E. W. Barnes,* manager of the company, appeared for the applicant. No appearances were made in opposition.

The local rates of the company on file with the Commission are as follows:

Single line business phone	$2.00	per month
2 party line business phone	1.75	"
3 or more party line business phone	1.50	"
Extension set business phone	1.00	"
Single line residence phone	1.50	"
2 party line residence phone	1.25	"
3 or more party residence phone	1.00	"
Extension	.50	"

In addition to these rates the company imposes a charge of 10 cts. per message for communication from the city to any of its rural phones, or, in lieu of this message charge, city subscribers may pay a flat rate of 25 cts. per month for unlimited service to the rural lines. This additional charge for service from the city to the rural lines the company proposes to abolish if the increase in rates asked for is allowed. The company's report shows it to have approximately three hundred rural patrons. No additional charge is made to these patrons, it seems, for communication to city subscribers. If the rural calls to the city subscribers are to be regarded as exchange business generally, it is only fair to regard the converse of these calls, i. e., calls from city subscribers to the rural lines, as part of the general exchange business also, to be paid for at regular exchange rates. It is considered, therefore, that this message and flat rate charge to city subscribers for use of the rural lines of the company should be abolished, as suggested by the applicant.

It was testified at the hearing that the company has had an

engineer of the Wisconsin Telephone Company make an estimate of the cost of the desired improvements. This engineer made a survey of the situation and arrived at the conclusion that the cost of the necessary equipment to place the city subscribers upon a common battery system and the rural subscribers on a magneto system would be about $16,125. This figure the manager of the company believes can be reduced by about $4,000, leaving the total cost of equipment at about $12,125. It is estimated that the building proposed to be erected to accommodate the central office will cost $3,500. Thus the entire cost of the improvements is estimated by the management to be about $15,625, the salvage from the equipment now in use being expected to be sufficient to take care of the expense of making the change. Some portion of the new equipment being in the nature of replacement of equipment now in use, a part of the cost will probably be charged to depreciation and paid for out of the depreciation reserve fund. The central office equipment now in use, of a value of about $1,500, and wire plant and other equipment of an estimated value of about $3,500 are thought to be correctly regarded as depreciation. The deduction of the sum of these amounts from the total cost of the improvements leaves $10,625 to be provided for by the sale of additional capital stock.

The value of the property, including a reasonable allowance for cost of developing the business, was placed at $25,800 in July, 1913. The company was permitted to issue stock on the basis of this value. While the value placed upon a property for purposes of purchase or the issuance of stock may not be identical with the value that should be allowed for the purpose of computing a fair value for rate-making purposes, it appears that the amount allowed by the Commission in this instance may fairly be taken as the value as of that date. Since then the company has made some improvements that should be included in a valuation as of the present time. Additions to the wire plant have been made at a cost of $1,106.92. New phones have been placed, which, including wiring and installing, have cost approximately $1,203.26, and land has been purchased as a site for the proposed central office building at a cost of $1,263.03. These additions, together with some minor amounts, bring the value up to $29,786.21 at the date of the last report. This, together with the cost of the estimated improvements, will

make the value upon which the company should be allowed to earn approximately $40,500.

An examination of the income account as reported to this Commission in June, 1913, shows the total operating revenues for the fiscal year last past to have been $12,595.45, and the ordinary operating expenses to have been $7,187.47. Inspection of the various items of operating expense in the light of the data on hand indicates that these items are fairly normal. Depreciation was charged off by the company at a rate of 7 per cent which is probably slightly higher than was entirely necessary. Deducting depreciation and taxes and adding the non-operating revenues, the gross income from the year's operation is found to be $3,195.70, of which $2,608 was paid out in dividends and $587.70 passed to surplus. There remains to be seen what increases there must be in the earnings of the company if it is to continue to meet operating expenses, pay taxes, allow adequately for depreciation and pay a fair return upon the investment.

It is stated by the company that 130 subscribers in the city are paying the flat rate of 25 cts. per month for service to the rural lines. The income from these amount to $390 per year. The income from those subscribers who pay the 10 ct. toll charge for occasional service to the rural lines and from similar tolls from the Wisconsin Telephone lines averages $213.72 per year. The abolition of this special charge for rural service will therefore entail a reduction in income of approximately $600 per year. Applying this reduction to the income reported for the last fiscal year we find the total operating revenues fall to $11,995,45, an amount insufficient to provide completely for operating expenses, depreciation, taxes, and interest, even on the investment the company has at present. *A fortiori,* it would be insufficient to care for the same allowances on an increased investment such as the improved service will require. Some advance in rates is therefore necessary if the city is to be given the advantage of the improved service suggested. But it does not appear that the required increase in revenues is as great as that which would result from the increased rate proposed by the company.

We cannot foretell what effect a change in the schedule of rates of the company will have upon the class of service that the subscribers elect to take. It is probable, however, that there will be some changes from single party to two or more party service following a readjustment of the schedule. We do not anticipate

that the number of changes will be so great as to seriously disturb the accuracy of the estimates we have made, especially since the data we have at hand as to the number of installations are those submitted by the company in its last report, and do not take into consideration the additional installations made since that time. The following table shows the rates that are considered sufficient to meet the requirements of the proposed improved service:

	Rate.	Increase.	Amount.
Business.			
Single party	$2.50	$0.50	$156.00
2 party	2.00	.25	15.00
3 or more party	1.75	.25	261.00
Extension set	1.00		
Residence.			
Single party	1.75	.25	51.00
2 party	1.50	.25	33.00
3 or more party	1.15	.15	621.00
Extension set	.50		
Total additional revenue			$1,137.00

Deducting the revenue at present derived from the class of service previously spoken of, which is to be abolished, and adding the revenue to be derived from the increases in rates herein proposed, the total operating revenues of the company would amount to $13,132.45. The ordinary operating expenses for the past fiscal year, plus an allowance for depreciation at 6½ per cent on the value of the property at present in use and on the estimated cost of the improvements proposed, and plus taxes as already paid for the year 1914, would amount to $10,196.88. A balance would thus be left amounting to $2,935.57, which, adding the non-operating revenues, gives an amount available for a return upon investment of $3,101.89. With interest at 7 per cent this appears to be adequate to pay interest charges and leave a slight surplus to care for unforseen contingencies.

The preceding discussion is based upon the assumption that the system of the Ripon United Telephone Company is to be improved in the manner outlined in the first portion of this decision.

IT IS THEREFORE ORDERED: 1. That the Ripon United Telephone Company abolish the charge now made to city subscribers of 25 cts. per month flat rate for service to rural lines or 10 cts. toll rate to city subscribers for service from the city to rural lines.

2. That, upon the completion of the improvements of the system owned by the said company by the substitution of the common battery system for the magneto system now in use in the city of Ripon, and of complete metallic lines throughout, the company may discontinue its present schedule of rates and substitute therefor the following schedule:

Business rates:	
Single party line	$2.50
2 party line	2.00
3 or more party line	1.75
Extension set	1.00
Residence rates:	
Single party line	1.75
2 party line	1.50
3 or more party line	1.15
Extension set	.50

These rates as authorized shall not be put in effect until the improvements outlined have been fully made.

TOWN OF HOWARD
vs.
MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY.

Submitted Feb. 24, 1914. Decided April 30, 1914.

The petitioner alleges that a crossing on the respondent's line about one mile west of Albertville in the town of Howard, Chippewa county, is dangerous and asks that the respondent be required to install an electric bell.

Held: The crossing is dangerous. The respondent is ordered to install and maintain an electric bell, with illuminated sign, plans to be submitted for approval. Ninety days is considered a sufficient time within which to comply with this order.

The petitioner, a regularly organized town in Chippewa county, alleges in substance that a highway crossing on the line of the Minneapolis, St. Paul & Sault Ste. Marie Railway Company about one mile west of Albertville is dangerous to public travel, and requests the Commission to require the respondent to install an electric bell.

No answer was filed by the respondent.

A hearing was held at Albertville on February 24, 1914, at which *W. H. Gates* appeared for the petitioner, and *Kenneth Taylor* for the respondent.

The testimony shows that at the crossing in question the highway runs north and south and the respondent's single track line east and west. The view of trains to the west is comparatively unobstructed from either highway approach. To the east, however, the view is cut off by the banks of a deep cut. Witnesses stated that on the north highway approach trains from the east cannot be seen until a traveler's horses are within a very few feet of the rail. On the south highway approach trains from the east can be seen at a distance from a point in the highway about forty rods from the rail, but after passing that point no view is afforded until a traveler is very close to the track. The highway descends to the track from both sides, which interferes with the control of heavily loaded teams in a case of emergency. Moreover, the banks of the cut make it difficult to hear a train

approaching from the east if the wind is blowing from the west. It was asserted that trains frequently fail to whistle at this crossing.

The highway leads from the territory south of Albertville to Colfax. Vehicular traffic was estimated at an average of ten or twelve daily, but it was said that as many as twenty-five or thirty vehicles often cross. Witnesses stated that the road is traveled by a number of automobiles during the summer and that several farmers cross regularly in hauling their cream and milk. About ten children are obliged to use this crossing on their way to and from school. The respondent's time-table shows four regular passenger trains and six regular freight trains on this division, of which four are scheduled to pass Albertville after dark. Several narrow escapes at the crossing were described by witnesses.

It is evident from the testimony that the crossing under consideration is one of unusual danger. In view of the existing traffic conditions, it is our judgment that the installation of bell protection, as prayed for, will provide reasonable protection for the public.

IT IS THEREFORE ORDERED, That the respondent, the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, install and maintain at the crossing on its line about one mile west of Albertville in the town of Howard, an automatic electric bell with an illuminated sign for night indication, plans to be submitted to the Commission for approval.

Ninety days is considered a sufficient time within which to comply with this order.

TOWN OF WIEN
vs.
CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted Jan. 20, 1914. Decided May 1, 1914.

The petitioner alleges that the crossings known as the Yanke crossing, the Sawyer crossing and the Hoffman crossing on the respondent's line in the town of Wien, Marathon county, are dangerous.

Held: The crossings require further protection. The respondent is ordered to install and maintain at each an electric bell with illuminated sign, plans to be submitted for approval. Ninety days is considered a reasonable time within which to comply with this order.

It is suggested that the town board remove the obstructing brush and trees at the Yanke and Sawyer crossings.

The petitioner, a regularly organized town in Marathon county, alleges in substance that three highway crossings on the line of the Chicago & North Western Railway Company in the town of Wien are dangerous to public travel on account of the surrounding physical conditions. The crossings are designated as follows:

1. Yanke crossing, 2¾ miles south of Edgar.
2. Sawyer crossing, ½ mile southwest of Fenwood.
3. Hoffman crossing, 1½ miles south of Edgar.

The Commission is therefore asked to take such action as it deems just in the premises.

No formal answer was filed by the respondent.

A hearing was held at Edgar on January 20, 1914, at which *Martin Marguardt* appeared for the petitioner and *C. A. Vilas* for the respondent.

The Yanke Crossing.

The testimony shows that at the Yanke crossing the highway runs east and west and the respondent's line northeast and southwest, the angle of crossing being acute. The town chairman testified that the view of trains to the south from either approach is so badly obstructed by the banks of a cut through

which the track curves, that travelers must be very close to the rail before an approaching train is visible. The respondent's engineer stated that this cut is 15 feet deep at about five hundred feet from the crossing, running about the same depth for one hundred feet each side of that point. The banks are lower nearer the crossing, disappearing a short distance northeast of the highway. The Commission's engineer reports that the land south of the road is high and covered with woods which grow close to the highway and railway right of way fences, and that a similar condition exists in the northwest angle. He also reports that trees and brush growing within the highway lines east of the track obstruct the view of trains.

The respondent's engineer stated the limits of vision, as observed from points in the highway at the railway right of way lines, as follows:

Distance of point of observation on highway from track.	View southwest.	View northeast.
West 50 feet	700 feet	2,000 feet.
East 50 "	400 "	2,000 "

Upon the basis of observations made on July 2, 1913, when the trees were in full leaf, our engineer reports the limits of vision as follows:

Distance of point of observation in highway from track,	View southwest.	View northeast.
East 50 feet	200 feet	½ mile.
" 100 "	80 "	½ "
" 200 "	30 "	¼ "
" 300 "	15 "	¼ "
West 50 "	200 "	½ "
" 100 "	250 "	600 feet.
" 200 "	200 "	300 "
" 300 "	100 "	150 "

The highway is a crossroad used chiefly by the residents of the locality. The town chairman estimated the highway traffic at about eight or ten teams a day. The respondent's superintendent introduced a traffic count made by the section foreman, which shows six teams, one automobile and eight pedestrians on January 16, 1914, and four teams and eight pedestrians on

January 17. There are nine regular train movements, three of which occur after dark.

The Commission's engineer recommends that bell protection be provided, and that the town of Wien remove the obstructing brush within the highway lines for a distance of five hundred feet from the tracks.

The Sawyer Crossing.

It appears from the testimony that at the Sawyer crossing the respondent's line runs northeast and southwest. The highway parallels the track from the southwest and turns sharply at the crossing running due south over the railroad right of way. About two hundred feet south of the track the road divides, one branch going south and the other east. The town chairman testified that from the approach which parallels the track on the north it is impossible to see a train to the southwest without standing up in a vehicle and looking back. Even then, he said, a traveler can see only fifteen or twenty rods, because of the bank of a twelve foot cut through which the track passes. After making the sharp turn on to the railway right of way, one must be almost on the track to see a train to the southwest. This cut also interferes with the view of trains to the southwest from the south highway approach. Our engineer reports that thick woods adjoin the railway right of way northeast of the crossing and both sides of the highway south of the track, and that there is obstructing brush within the highway lines near the crossing.

The respondent's engineer testified that the limits of vision, from points in the highway at the railway right of way lines are as follows:

Distance of point of observation in highway from track.	View southwest.	View northeast.
South 50 feet	1,225 feet.	2,000 feet
North 50 "	875 "	2,000 "

Our engineer reports the limits of vision as observed on July 2, 1913, as follows:

Distance of point of observation in highway from track.	View southwest.	View northeast.
South 50 feet	1,200 feet.	½ mile
" 100 "	250 "	70 feet
" 200 "	150 "	30 "
" 300 "	80 "	20 "
North 50 "	900 "	½ mile
" 100 "	500 "	500 feet
" 200 "	500 "	600 "
" 300 "	500 "	1,200 "

The road is an important highway leading from Fenwood to Stratford. The town chairman estimated the highway traffic at from ten to twenty teams a day on the average. He said that some automobiles cross and that the farm traffic is considerably augmented on stock days. A count taken by the section foreman on January 19, 1914, shows that eight teams crossed during the day. Traffic on the railway is the same as that described with reference to the Yanke crossing.

The Commission's engineer recommends that bell protection be provided at the Sawyer crossing and that the town of Wien remove the obstructing brush and trees from the highway for a distance of five hundred feet on each side of the track.

The Hoffman Crossing.

The testimony shows that at the Hoffman crossing the respondent's line runs northwest and southeast, intersecting at an acute angle an east and west highway. The track lies in a cut, which has a maximum depth of twelve feet at a point between four hundred and five hundred feet southeast of the crossing. The town chairman testified that from the east highway approach the view to the southeast is obstructed by the banks of the cut so that it is difficult to see a train until the traveler is very close to the track. The banks of the cut also obstruct the view to the southeast from the west highway approach, and in addition there are several buildings in the line of vision. The town chairman also stated that the view to the northwest from the west highway approach is obscured by buildings and trees.

The respondent's engineer testified that the limits of vision at points in the highway at the railway right of way lines are as follows:

Distance of point of observation in highway from track.	View southeast.	View northwest.
East 50 feet	535 feet	2,000 feet.
West 50 "	780 "	2,000 "

Our engineer reports the limits of vision, as observed on July 1, 1913, as follows:

Distance of point of observation in highway from track	View southeast.	View northwest.
East 50 feet	650 feet.	1,500 feet.
" 100 "	450 "	1,400 "
" 200 "	300 "	1,300 "
" 300 "	250 "	1,200 "
West 50 "	450 "	¼ mile.
" 100 "	300 "	70 feet.
" 200 "	200 "	30 "
" 300 "	100 "	20 "

The highway is a main traveled road leading from Wausau to Colby. It is being improved under state aid, the work having progressed to a point within four miles of the crossing. The town chairman estimated the traffic at from thirty to fifty vehicles a day. The count submitted by the company shows eighteen teams, one automobile and five pedestrians on January 16, 1914, and seventeen teams, five automobiles and ten pedestrians on the following day. Train movements are the same at this crossing as those described with reference to the Yanke crossing. A narrow escape from accident at the Hoffman crossing was described by witnesses.

The Commission's engineer recommends that bell protection be provided at the Hoffman crossing.

From a careful examination of the testimony and of the reports of our engineering staff, it is our judgment that each of the three crossings designated in the complaint is more than ordinarily dangerous and that further protection at each of them is necessary. We suggest that the town board remove the obstructing brush and trees at the Yanke and Sawyer crossings as recommended by our engineer. In our opinion bell protection

at each crossing will reasonably safeguard public travel under the existing traffic conditions.

IT IS THEREFORE ORDERED, That the respondent, the Chicago & North Western Railway Company, install and maintain at each of the three crossings designated in the complaint, namely, the Yanke crossing 2¾ miles south of Edgar, the Sawyer crossing ½ mile southwest of Fenwood, and the Hoffman crossing 1½ miles south of Edgar, an automatic electric bell with an illuminated sign for night indication, plans for track circuits to be submitted to the Commission for approval.

Ninety days is considered a reasonable time within which to comply with this order.

IN RE PROPOSED EXTENSION OF THE LINE OF THE WISCONSIN TELEPHONE COMPANY IN SECTIONS 7, 17 AND 18 IN THE TOWN OF ROCK, ROCK COUNTY, WISCONSIN.

Submitted May 1, 1914. Decided May 6, 1914.

The Wis. Tel. Co. filed notice with the Commission of its intention to extend its line south in the town of Rock between sections 7 and 8 and between sections 17 and 18 to reach three prospective subscribers. The Rock County Tel. Co. objects to the proposed extension. Two of the prospective subscribers reside in section 7, which is in territory now without telephone service and about equidistant from the lines of the two companies. The third prospective subscriber resides in section 18 and now has the service of the Rock County Tel. Co. over a line a quarter of a mile long on which he is the sole subscriber and which was constructed for the purpose of giving him service, but is said to desire the service of the Wis. Tel. Co. for the reason that he has another farm located in section 7 at which he has the service of the Wis. Tel. Co. A proceeding having for its object the establishing of physical connection between the Wis. Tel. Co. and the Rock County Tel. Co. is now pending before the Commission.

The Anti-Duplication Law permits a proposed extension to be made unless the Commission makes a definite finding that public convenience and necessity do not require the extension. The Commission cannot make such a finding on the mere ground that the company objecting to the making of an extension by another company has been longer established than the other in the town in which the extension is to be made and has the preponderating line mileage and number of subscribers in that town.

Held: Public convenience and necessity do not require the extension proposed insofar as the territory south of sections 7 and 8 is concerned. No finding is made with respect to the proposed extension to the two residences in section 7 and the Wis. Tel. Co. will therefore be authorized by the operation of law to proceed with the extension to these points.

Notice of the proposed extension involved in this case was filed with this Commission by the Wisconsin Telephone Company April 17, 1914. Upon the filing of objection by the Rock County Telephone Company the matter was set for hearing at Janesville.

At the hearing which was held May 1, 1914, the Wisconsin Telephone Company was represented by *J. F. Krizek* and the Rock County Telephone Company by *Ruger & Ruger*.

The Wisconsin Telephone Company proposes a lateral extension from its existing line which now runs on an east and west highway between sections 5 and 8 in the town of Rock. The proposed extension would run south on the line between sections 7 and 8 and between sections 17 and 18 to reach three proposed subscribers. Of these three persons, two reside along the proposed line in section 7, and the third, Mr. Finley, is at the end of the proposed line in section 18. A fourth resident, who has not decided to take telephone service but who is considered by the Wisconsin Telephone Company to be a prospect, lives across the road from Mr. Finley and a few rods north. The two proposed subscribers in section 7 now have no telephone service; the one farthest to the north desires the Wisconsin Telephone Company's service; the other one is indifferent as to which service is installed. Mr. Finley, the proposed subscriber farthest to the south, now has the service of the Rock County Telephone Company, and it was stated at the hearing that his main reason for desiring the Wisconsin Telephone Company's service was that he owned another farm at about the center of section 7, at which he had the service of the Wisconsin Telephone Company. It was testified that the Rock County Telephone Company built its line about two years ago to Mr. Finley's residence, constructing for his use about one quarter of a mile of pole line which would be left without any subscribers at all if Mr. Finley were to be transferred to the Wisconsin line. Mr. Finley did not appear at the hearing and some of the testimony tended to show that he was satisfied with the Rock County service and has no great desire for a change.

The two proposed subscribers north of Mr. Finley's residence are in territory served by neither company. There is little difference in the distance either company would have to build its line in order to reach these persons. The northerly one is a little closer to the Wisconsin line, while the southern one seems a little nearer to the end of the Rock County line at Mr. Finley's residence. Under such circumstances as these there does not seem to be any controlling public necessity demanding the service of one company rather than that of the other. The only action the Commission can take under the statute is to make a finding that public convenience and necessity do not require an extension proposed by a telephone company, and if such finding is not made, the company has the right to make the extension.

Such a finding cannot be made in this case as to the more northerly residences since there is nothing in the situation to indicate that from the point of view of the public the service of the Wisconsin Telephone Company is not needed at the points in question.

Counsel for the Rock County Telephone Company in his brief disagrees with the position just stated and previous expressions in other cases by this Commission in regard to entrance of companies into unoccupied territory. It is his position, as we understand it, that where one company has been long established in a given town and has a preponderating mileage of line and a number of subscribers in that town, it should be the one to serve that town; and that if another company happened to be operating within the town when the Anti-Duplication Law became effective, it should be permitted to keep only such subscribers as it had and it should not be allowed to extend. The legislature, it is true, made the town the unit for jurisdictional purposes, but the question of public convenience and necessity is not one that can ordinarily be determined by the location of town lines. So far as the public convenience and necessity are concerned it would be impossible to say that the older or larger company should be permitted to do all the extending within a town and that the newer company should be confined to its existing lines. This Commission must consider the telephone situation as it existed when the Anti-Duplication Law became effective and when the situation is thus considered it is usually difficult to give either company priority when both are about equally near to unoccupied territory. The provision in the law for physical connection between telephone companies should afford relief from such inconvenience as may result from close proximity to telephone lines already established in rural districts.

It follows from what has been stated that the Commission will make no finding with respect to the Wisconsin Telephone Company's proposed extension to the first two residences mentioned in the notice and the company will therefore be authorized by the operation of law to proceed with the extension of these points.

The situation is quite different as to the extension to Mr. Finley's residence where the Rock County Telephone Company is already giving service and there is nothing in the record to in-

dicate that the service is not reasonably adequate. The shifting of Mr. Finley from the Rock County to the Wisconsin line would make about one quarter of a mile of the Rock County pole line useless. The case here is not one of unoccupied territory into which either company may with equal propriety be allowed to enter. The very kind of destructive competition which the law was intended to prevent would result if actual transfer of subscribers from one company to another for such reasons as appear in this case were to be permitted. As we have intimated above, the Physical Connection Law can be called into operation to obviate the difficulty caused by Mr. Finley's ownership of two farms on one of which the Wisconsin Telephone Company's instrument is now installed. As a matter of fact there is now pending before this Commission a proceeding having for its object the establishing of physical connection between the Wisconsin Telephone Company and the Rock County Telephone Company at Janesville and this case will soon be decided. The evidence presented satisfies us that public convenience and necessity do not require the extension to Mr. Finley's residence.

As to the other residence near Mr. Finley, at which there is no certainty that any telephone service at all is desired, it would seem that its close proximity to Mr. Finley's house would make the Rock County line the logical one to be extended if an extension is to be made. The evidence is very vague, however, as to the needs and intentions of Mr. Mulligan, the occupant of this residence, and therefore for the present the Commission's finding will be to the effect that no extension of the Wisconsin Telephone Company's line south of the southern boundary of sections 7 and 8 of the town of Rock is required by public convenience and necessity.

We therefore find and determine that public convenience and necessity do not require the extension of lines of the Wisconsin Telephone Company in the town of Rock, Rock county, Wis., in the manner proposed in its notice filed with this Commission April 17, 1914, insofar as such extension is proposed to proceed south of the southern boundary of sections 7 and 8 of said town of Rock.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF A HIGHWAY CROSSING LOCATED ABOUT ONE MILE SOUTH OF GALESVILLE DEPOT ON THE LINE OF THE CHICAGO AND NORTH WESTERN RAILWAY COMPANY IN THE TOWN OF GALE, TREMPEALEAU COUNTY.

Submitted March 26, 1914. Decided May 6, 1914.

The Commission, on its own motion, investigated the "Richard Jahn crossing" on the C. & N. W. Ry. in the town of Gale, Trempealeau county, after informal complaint had been made that the crossing is dangerous to public travel and that a small bridge located almost entirely on the railroad right of way is in a dangerous condition. As originally constructed the highway was practically level at the point in question but when the railroad was built the highway was raised so as to provide a grade crossing, thereby creating the ascending approaches against which complaint is made. The railway company contends that the jurisdiction of the Commission does not extend to the enforcement of the duties laid upon railroad companies by sec. 1836 of the statutes which requires a railway company in a case like the instant case to restore a highway crossed by its line "to its former state or to such condition as that its usefulness shall not be materially impaired".

Held: 1. The crossing is dangerous and inconvenient.

2. The Commission is vested with authority by sec. 1797—31 of the statutes to enforce the provisions of sec. 1836 of the statutes.

The railway company is ordered to improve the highway approaches to the crossing as specified, to construct a suitable culvert, to replace the bridge against which complaint is made, and to remove the trees and brush along the creek within the railroad right of way lines.

It is recommended that the town board cause to be removed the obstructing brush and trees within the limits of the highway and that it take such action as is necessary to secure the removal of the obstructing brush located on private property in the northeast angle of the crossing.

Following an informal complaint from the chairman of the town of Gale that a highway crossing on the line of the Chicago & North Western Railway Company, located about one mile south of the depot at Galesville in Trempealeau county, is dangerous to public travel and that a small bridge almost entirely on the railway right of way is in dangerous condition, a hearing, on motion of the Commission, was duly ordered and held at Galesville on March 26, 1914. *L. L. Grinde* appeared for the town of Gale, *W. C. Buetow* for the Wisconsin Highway Com-

mission and *C. A. Vilas* for the Chicago & North Western Railway Company.

The testimony shows that the crossing in question is known locally as the "Richard Jahn crossing." The railway is on a fill and runs northeast and southwest, curving to the south about nine hundred feet southwest of the crossing. The highway parallels the track on the southeast side, turns due west at the crossing and continues in that direction west of the track. A small bridge over a stream is located a short distance southeast of the crossing. Witnesses testified that the view of trains is not seriously obstructed from either highway approach, but that on account of the fill and the steepness of the approaches a driver cannot see a team or automobile approaching the crossing from the opposite side. The company's engineer testified that the west highway approach is on a 6 per cent grade and the east approach on a 7½ per cent grade. It was also stated that the approaches are too narrow to permit a team to turn around or to pass an automobile in safety. A narrow escape from collision between a team and an automobile was described. With regard to the convenience of the crossing a witness asserted that it is impossible to haul a full load, such as would normally be carried in this district, over the track at this point. The highway bridge southeast of the track is in poor repair and was said to be dangerous. The opinion was expressed by the railway company's engineer and by the town chairman that the bridge can be satisfactorily replaced by a culvert, since the stream is a small one.

The highway is one of the main traveled roads from Galesville to Trempealeau and Winona. As originally constructed the highway was practically level at this point, but when the railway line was built, about 1883, the highway was raised so as to provide a grade crossing, thereby creating the ascending approaches as they exist to-day. Witnesses estimated that from thirty to forty vehicles and a number of pedestrians, including about ten school children, use the crossing daily. During the summer eight or ten automobiles a day ordinarily cross. The representative of the Wisconsin Highway Commission stated that the highway will be included in the state road system when the town votes for its improvement. There are eight regular train movements on this branch line, all of which occur between 5:40 a. m. and 7:45 p. m.

Some question was raised at the hearing as to whether the bridge over the stream lies within the railway right of way. In its brief the company admits that the records show the bridge to be for the most part, if not wholly, within the limits of its right of way. However, it is not material to a decision in this case whether the bridge is or is not within the company's lines.

The engineer of the Commission, on the basis of an investigation on the ground, recommends that the grade of approach be reduced to a maximum of 5 per cent, that the approaches be widened to twenty feet, and that the existing bridge over the stream be replaced by a suitable culvert. He states that the view of trains to the southwest from the southeast highway approach is obstructed by brush and trees within the highway, and also along the creek within the lines of the railway right of way. Brush on private property in the northwest angle of the crossing also limits the vision. He recommends that the town and the company remove these obstructions.

In the light of the testimony and of the report of our engineer it is our judgment that the crossing in question is dangerous to human life, and we regard the improvements recommended by our engineer as necessary for the adequate safeguarding of public travel on the highway. However, the improvements are also necessary in order that the highway shall be restored "to its former state or to such condition as that its usefulness shall not be materially impaired," as provided in sec. 1836 of the statutes. The highway was practically level before the railway was built, and its present dangerous and inconvenient condition is due entirely to the construction of the railway line on a fill at this point. It is therefore the duty of the railway company to render the crossing, insofar as is possible, as convenient for public travel as it was before the line was built.

Counsel for the company contends that in a case of this nature the jurisdiction of the Commission extends only to matters of public safety as provided in sections 1797—12*e*, *f*, *g*, *h*, *i*, and *j*, and that the enforcement of the duties provided in sec. 1836 is not within the scope of the powers conferred upon the Commission, as this section was in existence prior to the creation of the Commission and has heretofore been enforced by mandatory injunctions. *Jamestown v. Chicago B. & N. R. Co.* 69 Wis. 648; *Oshkosh v. Milwaukee & Lake Winnebago R. Co.* 74 Wis. 543.

But sec. 1797—31 imposes upon the Commission the duty of enforcing the provisions of sections 1797—1 to 1797—38 inclu-

sive, known as the Railroad Commission Act, as well as all other laws relating to railroads, and to report all violations thereof to the attorney-general. It appears from the language of this section that the enforcement of all other laws relating to railroads is placed on the same basis as the enforcement of the Railroad Commission Act. It was evidently the intention of the legislature to give the Commission jurisdiction to hear and determine violations of all laws relating to railroads where the questions involved could properly be passed upon by the Commission and the proceedings provided by statute for the exercise of the functions of the Commission were applicable. This view is sustained in the case of the *Chicago, Burlington & Quincy Railroad Co. v. Railroad Commission,* 1913, 152 Wis. 654. In that case the Commission made an order enforcing the provisions of the statute which imposed a specific penalty for a violation thereof. The Commission took the view that it had concurrent jurisdiction with the courts in enforcing the provisions of the statute. The order of the Commission was sustained.

Heretofore the Commission has made orders requiring railroads to comply with the terms of sec. 1836. *Town of Rhine v. C. M. & St. P. R. Co.* 1910, 5 W. R. C. R. 184; *Town of Lucas v. C. St. P. M. & O. R. Co.* 1913, 12 W. R. C. R. 703.

For the reasons stated an order will be entered requiring the railway company to make the necessary alterations in the crossing in question entirely at its own expense. We recommend to the town board that it cause to be removed the obstructing brush and trees within the limits of the highway, and that it take such action as is necessary to secure the removal of the obstructing brush located on private property in the northeast angle of the crossing.

It is Therefore Ordered, That the Chicago & North Western Railway Company improve the highway approaches to the crossing located on its line about one mile south of Galesville station in Trempealeau county, so as to provide a grade not to exceed 5 per cent and a crown width available for travel of not less than twenty feet; construct a suitable culvert to replace the existing bridge southeast of the track conforming in width to the improved highway approaches, and remove the trees and brush along the creek within its right of way lines.

Ninety days is considered a sufficient time within which to comply with this order.

GREILING BROTHERS COMPANY

vs.

CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Submitted Feb. 10, 1914. Decided May 6, 1914.

The petitioner alleges that the respondent exacted from it unjust and unwarranted demurrage charges on account of delays in unloading carload shipments of stone at Racine which were occasioned solely by the failure of the respondent to properly fulfill its agreement to provide certain track facilities for the use of the petitioner. There appears to be no provision in the demurrage rules of the respondent which would permit it to make any free time allowance for a delay of the kind involved in the instant case.

Held: The charge complained of was unusual and exorbitant. Refund of the amount claimed is ordered.

It would seem advisable for the railway companies to amend the demurrage rules to make allowances for delays in unloading cars which are occasioned, as in the instant case, by the failure of the railway company to provide promised track facilities within the time agreed upon with shippers.

The Greiling Brothers Company is a Wisconsin corporation engaged in the business of marine contracting with offices at Green Bay, Wis. It alleges that it entered into an agreement with the Lake Shore Stone Company at Lannon, Wis., whereby the latter company was to ship from Lannon, Wis., to Racine over the respondent's tracks nine hundred tons more or less of stone at a rate of two cars per day; that after the arrival and spotting of the first cars it found that only one and part of another car could be unloaded at a time; and that on September 13, at a meeting between the representative of the petitioner, Mr. Clancy, agent of the respondent, and the roadmaster of the respondent, it was agreed that if the petitioner would grade a certain piece of ground adjacent to the track from which the petitioner was then unloading, a track would be laid upon it, sufficient to allow the petitioner to unload two full cars, and part of another without a switch; that on September 17 the petitioner notified Mr. Clancy by letter that the grading was done, and ready for the track; that the respondent delayed laying the track

and that only after the petitioner had notified Mr. Clancy on September 23 that no demurrage would be paid, and that the matter would be taken up with the officials, was any attempt made to lay such track; that it was finally accomplished on September 23 at noon; that grading such grounds cut off the petitioner from the use of the track it had been using, so that it was unable to unload any stone from September 16, the day it began to grade, until noon of September 23 when the track was finally laid; that the petitioner was obliged to use other stone, thereby being deprived of the profit it would have made if it had been able to unload from its own cars; that on September 27 the track so laid spread which resulted in delaying unloading again until noon of October 1, through delays on the part of Mr. Clancy in ordering repairs; that demurrage charges to the amount of $54 accrued after September 17, 1913, and are directly chargeable to the negligence of Mr. Clancy, the employe of the respondent. Wherefore, the petitioner prays that the respondent be required to refund to it the sum of $54.

The respondent, answering the petition, admits all the formal allegations thereof but denies that incapacity or lack of service on the part of the respondent is responsible for the charge or any part of the charge or charges involved. It states that the bill rendered was on the basis of the proper and lawful charges which under the tariffs and rules of the respondent it was obliged by law to collect in the premises, and denies that the petitioner is entitled to refund the demurrage charges to any extent whatsoever. Wherefore, the respondent prays that the petition be dismissed.

A hearing was held on February 10, 1914, at the office of the Commission at Madison. *F. W. Lucas* appeared for the petitioner and *J. M. Davis* for the respondent.

The following facts were shown at the hearing: The petitioner, a marine contractor, entered into a contract with the United States government for the building of a concrete breakwater at Racine, Wis. It was also to replace certain portions of a timber breakwater and fill the same with stone. To carry out this agreement a contract was made with the Lake Shore Stone Company for its supply of stone; in all 10,000 tons had been ordered, to be delivered at a rate of two cars per day. When the first deliveries were made it was found that it was impossible to unload more than one car, or one and one-half cars, at a time on account of

the length of the siding. A meeting was accordingly arranged for September 13 between the petitioner and representatives of the respondent for the purpose of taking up the matter of securing increased facilities. At that meeting it was decided that if the petitioner would grade a certain piece of ground immediately adjacent to the track then used by the petitioner, the respondent would lay a track upon it and install a switch.

At the meeting the petitioner refused to do the grading, believing that it was the duty of the respondent to do this. The roadmaster finally left orders that should the petitioner decide to do the grading, he would order the section men to lay the track.

On the morning of Monday, September 15, the work of grading was begun by the petitioner and completed on the morning of the 16th. The petitioner, on September 17, notified Mr. Clancy, the representative of the respondent, in a personal letter to him, that the work was completed and ready for the track. The respondent admits the receipt of notice but claims that section men were not available at the time notice was received, but that they were put upon the work as soon as available. Without waiting for the track to be laid the petitioner arranged with the Lake Shore Stone Company to deliver four cars per day instead of two, upon the belief that it would require a day or two to change the order and that the additional facilities would be ready by the time the cars arrived. However, it seems the cars arrived immediately and were set out in the yard of the respondent where they remained some time as many as 18 waiting at one time.

The petitioner, it seems, called at the office of the respondent each morning to urge the laying of the track but nothing appears to have been done towards laying the track until the morning of the 23d., when the petitioner notified Mr. Clancy that it would take up the matter with officials of the railway company and would pay no demurrage. Work of laying the track was begun that morning and finished by noon. In the meantime, the United States government, unwilling to await the settlement of the controversy, shipped in over 900 tons of stone on scows on September 19 and ordered the petitioner to fill in the breakwater with them. The petitioner also complained of delay in repairing rails after the track was laid and the rails had spread. To this the respondent answered that when notice was given it the sec-

tion men were making repairs on the main track but that within thirty hours after notice was given the rails were repaired.

The stone contracted for from the Lake Shore Stone Company the petitioner was obliged to dispose of to other parties. This caused an additional delay in unloading and consequently an increase in demurrage charges.

The petitioner's records show that only four cars had been received prior to September 17 and that two of these were unloaded at the time of taking up the matter with the respondent, but the respondent claimed that there were more than this number.

The petitioner in all paid demurrage charges to the amount of $137, of which $54 is claimed as an unjust and unwarranted overcharge because it accrued after September 17.

From the foregoing statement of facts it appears that because of the respondent's delay in fulfilling its promise with the petitioner demurrage in the amount claimed accrued. There appears to be no provision in the respondent's demurrage rules that would permit it to make any free time allowance for a delay of this nature. However, without consideration of the respondent's obligation to enter into such an agreement, it would seem that the petitioner had a right to expect the fulfilment thereof without delay. The fact that the respondent found it necessary and convenient for its own interest to postpone the laying of the track should not operate to the disadvantage of the petitioner. The petitioner had no control over the delay and the respondent could extend the time to any length it saw fit and thereby increase the demurrage charges. It took but one-half day for the respondent to perform the required work and yet the respondent delayed doing the work for a period of six days. We do not deem that there is any equity or justice in charging the petitioner for delay in unloading cars in addition to the inconvenience and other expense suffered by it through this delay.

It would seem advisable for the railway companies to amend the demurrage rules, so that they would be permitted to make allowances for delays of this character. Such delays are likely to occur from time to time as the result of the amount of work the companies may have in hand when construction or extension of sidetracks is required. Any such provision should perhaps ignore short delays of a day or less.

For the reasons above stated, we find and determine that the demurrage charges exacted of the petitioner by the respondent as aforesaid are unusual and exorbitant and that no demurrage charge should have been made after September 17, 1913. The amount of overcharge is $54 for which sum reparation will be awarded.

NOW, THEREFORE, IT IS ORDERED, That the respondent, the Chicago, Milwaukee & St. Paul Railway Company, be and the same is hereby authorized and directed to refund to the petitioner, Greiling Brothers Company, the said sum of $54.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF THE ADVISABILITY OF SEPARATING THE GRADES OF A CROSSING FOUR AND ONE-HALF MILES NORTH OF RACINE ON THE LINE OF THE CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Decided May 7, 1914.

A previous order in this matter as amended requires the C. & N. W. Ry. Co. to construct a new subway at the crossing in question south of the existing subway, using the south abutment of the present structure for a pier, the work to be completed by June 1, 1914. Examination of plans submitted by the railway company and further consideration of the situation at the proposed subway indicate, however, that the retention of the south abutment of the existing subway as a solid pier, as specified in the order, would result in obstructing the view of traffic from the opposite side. The substitution of an open work steel pier for the concrete pier was agreed upon by the interested parties and the order is modified to permit this change. An extension of time for compliance until September 1, 1914, is allowed.

An order in the above entitled matter was issued on October 25, 1912, 10 W. R. C. R. 618, which, as amended on May 15, 1913, and July 9, 1913, provides for the construction of a new subway at the crossing in question south of the existing subway, using the south abutment of the present structure for a pier, the work to be completed by June 1, 1914. Plans were submitted by the Chicago & North Western Railway Company in accordance with this order, but upon a careful examination of these plans and after a further consideration of the situation at the proposed subway, it became evident that the retention of the south abutment of the existing subway as a solid pier, as specified in the order, would result in obstructing the view of traffic approaching from the opposite side.

A rehearing in the matter was therefore ordered and held at Milwaukee on March 25, 1914, and, as adjourned, at Kenosha on April 1, 1914. *Wm. W. Storms* appeared for the town of Caledonia, *Wm. G. Wheeler* and *Irving Herriot* for the Chicago & North Western Railway Company, and *Clarke M. Rosecrantz* for The Milwaukee Electric Railway & Light Company.

At the Kenosha hearing the railway company submitted revised plans which provide for the substitution of an open work steel pier for the concrete pier. This change, according to the estimate of the company's engineer, will increase the cost of the structure about $1,000 and will necessitate three months additional time for securing material and completing the work. The revised plans were agreed upon as acceptable by the representatives of all of the interested parties, and in the opinion of the chief engineer of the Commission the objection to the original plans are eliminated thereby. The revised plans are approved herewith.

IT IS THEREFORE ORDERED, That the order made herein on October 25, 1912, and amended on May 15, 1913, and July 9, 1913, be further modified and amended so as to read as follows:

1. That the Chicago & North Western Railway Company construct and maintain a new subway south of the existing subway where its line crosses the highway, which is located near the southwest corner of the northwest quarter of section 20, town 4 north, range 23 east, Racine county, Wisconsin, which new subway shall be separated from the existing subway by a steel bent pier, and which shall have a vertical clearance of not less than fourteen feet, and a horizontal clearance of not less than twenty-four feet, the approaches not to exceed a 5 per cent grade, in accordance with plans and specifications to be approved by the Commission, and that said subway be used for the purpose of carrying the said highway across the right of way and underneath the tracks of said Chicago & North Western Railway Company.

2. That when said new subway shall be completed and open for public travel, the portion of said highway crossing said railroad at grade between the right of way lines of said railway company be closed, and said Chicago & North Western Railway Company is hereby directed to enclose said highway with continuous fences so that the same cannot be used by the public.

3. That the Chicago & North Western Railway Company shall furnish all material and labor, and perform all necessary work in making the alterations ordered above.

4. That upon the completion of the alterations of the said highway herein provided for, the said Chicago & North Western Railway Company shall furnish this Commission with a complete and detailed account of all moneys expended herein, and

the Commission shall thereupon, with or without further hearing as may be deemed best, determine the actual cost of changing said highway and of the said subway, and the town of Caledonia shall thereupon pay to the said Chicago & North Western Railway Company 20 per cent of said cost as so determined by this Commission, and 80 per cent of said cost shall be borne by said Chicago & North Western Railway Company.

5. That the construction of said subway and the closing of said grade crossing shall be made and completed and said subway opened to the use of the public by September 1, 1914.

EARL TELEPHONE COMPANY
vs.
TREGO TELEPHONE COMPANY.

Submitted Feb. 13, 1914. Decided May 8, 1914.

The Earl Tel. Co. alleges that the Trego Tel. Co. extended its line in the summer and fall of 1913 without authority of law into territory already occupied by the Earl Tel. Co. The Trego Tel. Co. contends that inasmuch as it began the construction of the line prior to the enactment of ch. 610, laws of 1913, it was entitled to complete the line. The territory in question is in the main that which lies between the unincorporated villages of Earl and Springbrook in Washburn county. The Earl Tel. Co. has had for some years a line which runs through the village of Earl and for a mile or so in a northeasterly direction along the road toward Springbrook and another line which runs in a roundabout way into Springbrook. The extension which the Trego Tel. Co. is alleged to have built without authority follows the direct road out of Earl paralleling the Earl line to its terminus and continuing on the same highway to the village of Springbrook.

A telephone company which had its poles hauled and ready to set for an extension of its line prior to the date on which ch. 610, laws of 1913, became effective is not prevented by this law from completing the construction of the line as marked out by the placing of the poles, for the legislature cannot be presumed to have intended the law to affect extensions already made or those in process of construction.

The contention of the Earl Tel. Co. that the hauling and placing of the poles was for the purpose of constructing merely a toll line and that the officers of the Trego Tel. Co. later changed their minds and made the line into a local subscriber line is not supported by the evidence.

Held: The Trego Tel. Co. did not violate ch. 610, laws of 1913, in constructing the extension in question.

This case involves an alleged violation of ch. 610 of the laws of 1913, relating to the extension of telephone companies' lines, by the Trego Telephone Company. It is alleged by the Earl Telephone Company in its complaint that the Trego company without authority of law extended its line in the summer and fall of 1913 in territory already occupied by the Earl Telephone Company. The defense of the Trego Telephone Company is that the construction of its line was begun prior to the enactment of ch. 610 and the company therefore considered itself entitled to complete the line.

A hearing was held in the matter at Spooner on February 13, 1914, at which the Trego Telephone Company was represented by *W. R. Campbell,* and the Earl Telephone Company by *Archie Hope.*

The territory involved in this case is in the main that which lies between the unincorporated villages of Earl and Springbrook in Washburn county. It seems that the Earl Telephone Company has for some years had telephone lines in the vicinity of Earl. One of these lines runs through the village of Earl and for a mile or so in a northeasterly direction along the road toward Springbrook. Another of its lines runs in a roundabout manner into Springbrook. The extension which the Trego Telephone Company was alleged to have built without authority followed the direct road out of Earl paralleling the Earl line to its terminus and continuing on the same highway to the village of Springbrook. The result was that the Trego line paralleled the Earl line for over a mile and also reached the village of Springbrook, which was already served by the Earl company over its roundabout line. In addition, there was a short paralleling of the Earl line south of Earl since the Trego company at the time it began extending had not yet reached that village. The Trego company, in passing through Earl, installed an instrument in the general store there, and that store as a result now has both companies' telephones. The manager of the store acts as central operator for the Earl line. This store appears to be the only subscriber thus far secured on the new Trego line within the distance that the two lines run parallel, but the Trego company has also installed at least two telephones in Springbrook.

The evidence is not disputed as to the fact that the new line of the Trego Company was built in the summer and fall of 1913. It was shown, however, that the poles for this line were hauled about April and May, 1913, which was over two months before ch. 610 of the laws of 1913 became effective, and it was the claim of the Trego Telephone Company that the hauling of the poles was sufficient to establish that company's right to make the extension. It seems that poles were hauled and left lying along the entire route of the proposed line as far as the limits of the village of Springbrook, except that the poles intended to be set through the village of Earl were not distributed but were left in a pile near a warehouse in that village. At a few points along the line the poles were moved across the road before being set, but in gen-

eral they were left at almost the exact points where they were later erected.

With regard to the question presented by the Trego Telephone Company as to its right to continue construction of its line after the poles had been hauled and were ready to be set, it seems to us that the position of the company is well taken. Ch. 610 of the laws of 1913 became effective July 10, 1913. It was, of course, not intended to affect extensions already made, nor could the legislature be supposed to have intended it to affect extensions already in process of construction. Thus, if a company had set its poles and strung its wires, but had not yet installed any telephone instruments along the line, it could hardly be claimed that the enactment of the new law could prevent the company from attaching subscribers to the line thus constructed. If this is the case, it would seem that the setting of the poles without the stringing of the wires should also be enough to establish the company's right, and it is then but a short step to the situation actually existing in this case where the poles had been hauled and were ready to be erected. The cost of purchasing and hauling poles is a very considerable portion of the total cost of poles erected in place, so that it seems that the company had gone to sufficient expense and committed enough of an overt act to justify the assertion that its line was in course of construction. Furthermore, the placing of the poles at about the points where they were later erected marks out very distinctly the territory which the company was to cover. There was therefore much more than an undefined intention on the part of the officers of the Trego company as to the construction of the line; there was the performance of an act which constituted an important part of the actual work of construction and which also gave visual demonstration of the location of the proposed line. Under these circumstances, we think ch. 610 of the laws of 1913 does not affect the line of the Trego Telephone Company as constructed to the village of Springbrook.

The main contention of the Earl Telephone Company, however, is that the hauling and placing of the poles was for the purpose of constructing merely a toll line, and that the officers of the Trego Telephone Company later changed their minds and made the line into a local subscriber line. The manager of the Earl Telephone Company testified that when he asked the then manager of the Trego company, Mr. John T. Fielding, why poles

had been delivered on the highway occupied by his own line, Mr. Fielding had told him not to worry about the new line, since it was only to be a part of a toll line between Spooner and Hayward, a portion of which was to be built by the Trego company and a portion by the Hayward company. It was testified that this conversation took place in the spring of 1913, after the poles had been delivered. Mr. Fielding testified that he remembered the conversation but that he made no such statement as the one attributed to him. He admitted that the original intention had been to construct a toll line from Spooner to Hayward, but stated that the proposition had fallen through, due to lack of coöperation by the Hayward company, some months before the poles were delivered. It then transpired, according to his testimony, that farmers in the vicinity of Springbrook and country north thereof desired the service of the Trego company, and that company decided to build a line to them and had the poles delivered for that purpose. Mr. Fielding testified that at the time of the conversation between him and the manager of the Earl lines he already had contracts with some of these farmers. The testimony along this line is corroborated by that of one of the farmers in question, who said that about January 1913 he talked with Mr. Fielding with regard to the extension of line for local service to his vicinity and agreed that he would assist in hauling and setting the poles.

Although the evidence is in some conflict as to whether the Trego company intended building a local or a toll line when it delivered its poles, we believe it is fairly well established that the local line was in contemplation at the time. It is not denied that a toll line had previously been contemplated and it is entirely possible that some misunderstanding may have arisen in the mind of the Earl Telephone Company's manager due to this fact; or it is possible that the Trego Telephone Company deliberately concealed from the Earl Telephone Company its intention of building a local line and let it appear that the line was for toll service only, but even if this were the case, there was no law at that time to prevent the building of a local line in competition with the Earl line, and the representations made by the Trego Telephone Company would not be material to this case except as they might tend to show that company's actual intention.

We are unable to find from the evidence that the Trego Telephone Company violated the law in the construction of its line

from Springbrook. It will of course be understood that any further extension of that company's line will require previous notification to this Commission and to the other companies operating in the towns where the extensions are to be made. The same requirement will apply to any further extension within the unincorporated village of Springbrook, since that village is legally only a part of the town of Springbrook.

It follows that no order will be made in this case.

E. S. BOARDMAN
vs.
MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY.

Decided May 12, 1914.

The petitioner in effect alleges that the passenger service rendered by the respondent at Eidsvold, Clark county, is inadequate and asks that the respondent be required to stop trains No. 5 and No. 6 at that point on flag and on request of passengers. The trains in question are local interstate trains running between Chicago and Eau Claire. The eastbound train, No. 6, stops regularly at Eidsvold on Tuesdays and Fridays to receive shipments of cream for Marshfield and on flag on other days when there is cream to be shipped. Passengers are apparently permitted to board or alight from the train at these stops but the petitioner alleges that the stops are not long enough to afford elderly people an opportunity to make use of the train. The westbound train, No. 5, makes no regular stops at Eidsvold. The respondent states that it sells passenger tickets having Eidsvold as the destination only to such passengers as are willing to travel on the way freights which stop at Eidsvold. Passengers desiring to reach Eidsvold by passenger trains are compelled to purchase tickets either to Thorpe or Stanley, stations 3.4 miles east and 3.4 miles west, respectively, of Eidsvold. A curve in the track and the grade at Eidsvold appear to present operating difficulties which would interfere with the stopping of the westbound train, No. 5, at Eidsvold.

Held: The service complained of appears to be inadequate. An order requiring the respondent to stop train No. 5 on flag in the face of the operating difficulties involved or a permanent order requiring the respondent to stop train No. 6 on flag, however, would not be justified at the present time.

The respondent is ordered: (1) to take such measures as shall be necessary to furnish adequate service to and from Eidsvold on train No. 6 on such days as the respondent may find it necessary to regularly stop this train for cream shipments from Eidsvold and to charge for this service only the lawful rate of fare to and from Eidsvold; (2) for a period of three months to stop train No. 6 on other week days on signal or request to the conductor for the purpose of taking on or letting off passengers; and (3) to keep a complete and accurate record of the passenger business transacted at Eidsvold during the said period, at the expiration of which the Commission will make such further order as the facts may warrant.

The petitioner, a cheese manufacturer and proprietor of a general store at Eidsvold, Clark county, Wis., alleges in substance that the respondent railway company refuses to sell tickets to or

from Eidsvold, though certain of its passenger trains make regular stops at that point; that, as a result of this practice, a passenger having Eidsvold for his destination is obliged to pay railroad fare exceeding the legal rate. The Commission is therefore asked to grant such relief as it may deem just in the premises.

The respondent railway company, answering the complaint, denies that certain of its passenger trains make regular stops at Eidsvold; alleges that the only trains which do stop there regularly are way freights No. 37 and No. 38; that, since Eidsvold is not a regular passenger stop, it does not sell tickets to or from that point; that necessarily, therefore, a passenger having Eidsvold for his destination, must buy a ticket to Stanley or Thorpe, the stations next adjoining Eidsvold to the west and east, respectively; that, having done so, he is carried to whichever destination his ticket reads, and that consequently there is no overcharge.

Two hearings were held in these proceedings. The first took place in the office of the Commission in Madison on December 9, 1913, the second in the city hall at Stanley, January 21, 1914. The petitioner appeared in his own behalf, and the respondent by *Kenneth Taylor*.

This complaint is unusual, in that the petitioner's chief grievance is not embodied in his formal complaint unless possibly by implication. From correspondence on file with the Commission it would seem that the petitioner and others requested the respondent company to stop its local Chicago–Eau Claire passenger trains, number 5 and 6, on flag at Eidsvold. The company seemed unwilling to concede the desired stop and the petitioner thereupon filed the foregoing complaint. There were also several other minor matters as to which he expressed dissatisfaction in correspondence with the Commission and in the testimony.

Much of the respondent's testimony at the first hearing, and practically all of it at the second, was devoted to the impracticability of stopping the trains in question at Eidsvold. Blue prints showing the situation there as to grade and curvature were also submitted by the company with the same end in view. Since Eidsvold is not carded as a stop for passenger trains, either on flag or regularly, the selling of tickets to and from that point, which would remedy the petitioner's complaint, would also necessarily involve the stopping of these trains. Possibly for this reason, possibly on account of the correspondence which took

place prior to these proceedings between the Commission and the parties hereto, the rsepondent clearly seems to have felt no uncertainty as to the stopping of No. 5 and No. 6 being the point chiefly at issue. As has been seen, the petitioner stated that this was what was primarily desired.

The situation as regards the sale of tickets and the alleged overcharge, though not appearing as clearly as might be desired, seems to be substantially as follows. Eastbound passenger train No. 6 does stop on Tuesdays and Fridays at Eidsvold for cream shipments to Marshfield, and also stops on other days if there happens to be cream to ship, in which event the petitioner, who takes care of these shipments, flags the train. These cream stops, however, are not carded, but the matter is managed by bulletins so instructing the train crews. And since cream and not passengers is the object of stopping it is not intended that tickets shall be sold to or from Eidsvold for use on this train or on the corresponding westbound passenger train, No. 5, which does not stop regularly at all but carries the empty cream cans on through to Stanley, from which point they are in due season returned to Eidsvold on No. 6. However, while tickets are not supposed to be sold for use on the passenger trains, they are sold, according to the respondent's superintendent, for use on the way freights, which are carded to stop at Eidsvold. The company has no agent at Eidsvold, and the petitioner states that none is asked.

The trouble of which the petitioner complains, as far as the sale of tickets and the alleged overcharge are concerned, appears to be more or less due to confusion on account of these stops for cream and the company's purpose of treating them chiefly as such. There was some evidence which tends to show partiality on the part of the train crew in stopping for favored individuals, though this was not clear. Of course, such a practice would be indefensible. At any rate the petitioner testified that at times it was possible to stop the train, at others not, and that the same uncertainty existed with regard to the purchase of a ticket to or from Eidsvold, presumably for use on these trains. The petitioner also complained that conductors had quarreled with those who had been successful in purchasing tickets to Eidsvold directly, because the railway company had told them they need not bother with passengers at this point.

Apparently, if the prospective passenger is successful in purchasing a ticket directly to Eidsvold, then no overcharge is

claimed. The overcharge claimed is that frequently a party destined for Eidsvold must purchase to either Thorpe or Stanley, the adjoining stations, and that a party boarding the train at Eidsvold is charged from the last preceding stop to his destination, instead of from Eidsvold.

According to the testimony, the stopping of eastbound local passenger No. 6 for cream was found necessary to the efficient handling of this service. The respondent's superintendent of transportation, in a communication, a copy of which was filed with the Commission by the company, made a statement to the same effect to the general counsel. He added that when this was found to be the case, the stop twice a week was conceded in order to allow settlers in that territory to dispose of their cream and "to obtain cash for it to keep them while they were clearing their land, and which they would not have been able to do without this service."

Obviously it does not necessarily follow that a stop of this kind should be made a precedent in establishing a more frequent regular stop for passengers. It would seem, however, under all the circumstances of this particular case, that when such a stop as here is made regularly, and when, apparently, with very little additional effort or loss of time on the part of the company, this practice could be made much more convenient for those traveling to and from Eidsvold, then matters should be so arranged. Whether further direct passenger service for Eidsvold be justified or not, the Commission believes that the company, as long as it has regular days on which it stops for cream, should make provisions for handling passengers to and from Eidsvold on those days. They will, of course, be entitled to courteous treatment from employes of the company and to an opportunity to ride at the legal rate of fare to and from that point, also to a reasonable length of time in which to board and alight from the train at Eidsvold.

The evidence shows that No. 6 is also flagged on other days for cream. Since this is so, and Eidsvold is not carded as a regular stop for passengers, the fact that passengers destined to that point may have had to buy their ticket to either of the adjoining stations is not necessarily an overcharge, since the train may or may not stop at Eidsvold, if it does not happen to be a Tuesday or Friday. It is difficult though to see how a passenger boarding the train at Eidsvold can legitimately be charged fare from

the last preceding station. Such a practice would seem clearly unlawful. If a passenger is entitled to board the train at that point at all, then it must surely follow that he is entitled to ride at the lawful rate of fare.

The general situation at the point in question is as follows: Eidsvold is a place on the respondent's line about twenty-six miles east of Chippewa Falls and about forty-three miles northwest of Marshfield. These two appear to be the nearest large points on the respondent's line. Eidsvold is without railroad service other than that offered by the respondent. It has no station, but only an open platform. From this platform to the stations at either Stanley or Thorpe, the next station stops to the west and east, respectively, are a distance of 3.4 miles; that is, the stations at Stanley and Thorpe are 6.8 miles apart and the platform at Eidsvold is midway. The foregoing distances are based on the respondent's time-table No. 13, as of October 12, 1913.

Stanley has a population, according to the 1910 census, of 2,675 inhabitants. That of Thorpe is given as 741. Eidsvold is given 25, though the petitioner claims 50 for it at the present time. It further appears that Eidsvold has only the one store, that is, the general store of the petitioner, and that it has neither bank nor post office. As to the latter it seems that there was a post office there formerly, but that the community's mail is now delivered at Stanley and sent over to Eidsvold on the rural free delivery. In this respect the situation seems to be no different there than at Lombard, Mann and Bateman, comparatively nearby points on the same stretch of line. These are flag stops and no more entitled to be such, the petitioner contends, than Eidsvold. It also appears that a sawmill was located there, but that it has been discontinued for several years. The petitioner bases his claim for further service for Eidsvold chiefly, however, on the business given the company by the farming community tributary to that point.

According to a statement offered by the respondent, the freight business at Eidsvold from January to September, inclusive, 1913, was as follows:

Forwarded	$817.03
Received	149.86
Total	$966.89

Adding 25 per cent to make a full year would give approximately $1,200 as the amount of freight business which should be credited to Eidsvold for the year 1913. Aside from the freight, cream shipments must also be taken into consideration. These all go east to Marshfield, and are handled by the Western Express Company. The superintendent of the division here involved testified that during 1913 there was thus shipped 1,113 cans. For this the petitioner claims the express company received $251.79. In the general connection of traffic at this point, the petitioner also stated at the first hearing that a potato warehouse was to be built at Eidsvold the following year, that is, during 1914.

The schedule of the trains herein concerned is as follows:

Eastbound.			Westbound.	
Chicago-Eau Claire local No. 6.	Way freight No. 38.	Station.	Way freight No. 37.	Chicago-Eau Claire local No. 5.
7:18 a. m.	8:55 a. m.	.....Stanley	2:30 p. m.	8:17 p. m,
	9:10 a. m.	.....Eidsvold.....	2:15 p. m.	
7:32 a. m.	9:35 a. m.	.....Thorpe..	2:05 p. m.	8:06 p. m.

The two way freights are the only ones scheduled to stop at Eidsvold, either on signal or otherwise. These are daily except Sunday. As is usual with trains of this class, their movement is irregular. Apparently, however, they do not stop daily, though the testimony is somewhat conflicting. The petitioner stated that they do not stop regularly, but only for the purpose of delivering freight or unloading. The present division superintendent testified that the way freights stop at Eidsvold "when they have business to do there," and that they also carry passengers. The assistant to the general manager of the respondent company, prior to April 1, 1909, general superintendent of the Chicago division, which embraces this territory, stated that the service Eidsvold was supposed to be getting was, that the way freights were to stop there whenever occasion demanded, either for passengers or freight. On the whole it is not clear that the way freights, even making an allowance for their primary purpose, have furnished much of a solution as to the transportation of passengers to and from Eidsvold.

Passenger service of a kind does seem to be available, however, in the stopping of an eastbound local passenger train No. 6 for the cream shipments. As has been stated, these are made regularly Tuesdays and Fridays, and on other days if there is cream to ship, in which case the petitioner is expected to flag the train. It seems that for a time the westbound local train No. 5 stopped at Eidsvold to return the empty cream cans, but that the present practice is for No. 5 to take these on through to Stanley, the next station to the west, and for No. 6 to then carry them back to Eidsvold on the following Tuesday or Friday, when the next cream shipment is expected.

The arrangement by which the cream shipments are handled on passenger No. 6 has been in force, according to the respondent's division superintendent, possibly three or four years. In 1906 and 1907 everything from Eidsvold was handled by way freights. He believed that in 1908 arrangements were made to handle cream in this way from Eidsvold to Owen, and that when the shipping point was changed from Owen to Marshfield, making a distance of forty-three miles instead of fifteen as before, the service probably became unsatisfactory and the stopping of the passenger trains twice a week was conceded.

Prior to this concession for cream, No. 5 and No. 6 did not stop at Eidsvold, and when the arrangement was made, the petitioner conceded it was made principally for cream. The incidental passenger service No. 6 now affords is not satisfactory to the petitioner, since the stop is not long enough, he contends, to afford elderly people time to alight from or board the train. To a letter of the petitioner's dated July 10, 1913, complaining as to this matter, the superintendent on July 12, 1913, replied in part as follows: " * * * People boarding this train are ticketed to Thorpe and the train crew expect them, of course, to ride to destination of tickets. I am quite sure that they would not prevent passengers getting off at Eidsvold when the train stops to load cream, but as this is not a regular passenger stop, they surely can not make provision to unload passengers there. * * * "

As regards the situation from an operating standpoint, the facts appear to be substantially as follows: Eidsvold is located just east of a north and south highway. It is within the limits of a one per cent grade ascending west. This grade was alleged by the respondent's officials in their testimony to be the heaviest

at any point on the Chicago division, and twice the standard grade. A two degree curve has its easterly end just east of the above highway, and is alleged to increase the difficulty of starting on the grade in question. It further appears that there is a sidetrack at Eidsvold, the situation of which is alleged to be such that with box cars thereon the stopping point would be obscured; that train crews have occasionally complained to the officials in charge of stopping at Eidsvold on account of the difficulty in getting started at times of extra travel and also on account of the alleged "danger feature of stopping around the curve behind box cars which were usually on the sidetrack at that point;" and that from the Eidsvold stop the grade descends for seven hundred or eight hundred feet to the east, from which point it is again ascending.

As to trains No. 5 and No. 6, which the petitioner desires stopped on flag, the officials testified that these trains are local interstate passenger trains running between Chicago and Eau Claire; that they stop at all stations of any size; that they carry mail and are the only day trains between those two points; that between Chicago and Stevens Point they make forty regular stops and fourteen flag stops; that on this run their time exclusive of stops is 21.4 miles per hour; that from Stevens Point to Chippewa Falls they make eighteen regular stops and six flag stops, and that on this run their time exclusive of stops is 29.4 miles per hour. Altogether these trains make seventy-eight flag and regular stops between Chicago and Chippewa Falls. The distance, according to the company's time-table No. 13, as of October 12, 1913, is 353.5 miles.

The district surrounding Eidsvold is a fairly well developed dairy country with considerable possibilities in the way of further development. Eidsvold stop itself is located in the south central part of Thorpe town, and is just north of the extreme southern tier of sections. The next town to the south is Worden. The stops requested, except as they might accommodate the general traveling public to a small extent possibly, would convenience chiefly the population in these two towns, though not the entire population, since for those in the eastern and western parts thereof Stanley and Thorpe would presumably be more accessible. According to the 1910 census Thorpe has a population of 1,469 and Worden a population of 979, a total of 2,448. A map was filed by the respondent to show the general geograph-

ical situation. This map also purports to show residences. If correct, the population of the two towns is fairly well distributed. Possibly, allowing for some growth since 1910, there might be 1,000 or 1,200 people to whom these stops would be more or less of a convenience, according to the distance of their homes from Eidsvold, Thorpe and Stanley.

That the respondent's westbound local passenger train No. 5 does not stop at Eidsvold to deliver the empty cream cans, but carries them on to Stanley to be later returned on eastbound local passenger No. 6, would seem to imply that the company considers the grade and curve at this point a real operating difficulty, as it claims, and it was the opinion of the Commission's engineer, who visited Eidsvold, that the company's objection to stopping westbound trains on this grade and curve was not one to be overruled without good reason. He states, "eastbound trains have no difficulty in stopping at or starting from Eidsvold station, because for trains in this direction the one per cent grade is descending at the station," and that "the bottom of the sag is at the bridge of the north fork of the Eau Claire river seven hundred or eight hundred feet east of the station platform." As has been seen, the company does, as a matter of fact, regularly stop its eastbound passenger No. 6 at least twice a week for cream.

While the distance alone to the adjoining stations, Stanley and Thorpe, is not in itself sufficient to entitle the community to what might be described as a minimum of strictly passenger service at Eidsvold, it does appear that at present there is no satisfactory service there of any kind as far as passenger traffic is concerned, since the way freight does not stop regularly, but only for the purpose of delivering freight or unloading.

In view of the fact that up to a few years ago Eidsvold had no service other than that of the way freights; that the cream stops were established as such solely; that the operating difficulty in stopping for westbound trains may be a real obstacle; on the other hand that the information available is limited but leads to the conclusion that the community may be reasonably entitled to more service than it is getting and that a certain amount of traffic does accrue to the company at that point: a permanent order requiring the stopping of these trains on flag would seem no more justified than the dismissal of the complaint. The respondent will be required to stop its eastbound local passenger train, designated

as Chicago-Eau Claire local No. 6 in the company's time-table No. 13, as of October 12, 1913, for a period of three months on flag, or on request to the conductor by passengers. The company will naturally keep as complete a record as possible of passengers alighting from or boarding this train, and the revenues arising therefrom. Upon submission of this information to the Commission, the Commission will make such further order as is just in the premises.

The petitioner statet that passenger traffic at Eidsvold was in no particular direction. Under the circumstances of this case an order requiring the company to stop its westbound local passenger train No. 5 in the face of the operating difficulties described would not be justified at this time. However, the order which is to be issued will give the community all that they now have, and, in addition, regular eastbound morning service to or from Eidsvold, and to eastern points and Chicago. If the use made of this train is such as to justify such action, the order will be made permanent. Of course, should a place be really entitled to service, operating difficulties would, ordinarily at least, be no excuse for denying that service. Here, as stated, it is too doubtful a question whether the community is entitled to the stopping of westbound Chicago-Eau Claire local No. 5, with the difficulties possibly involved, to warrant such an order at this time on the basis of the limited data available. However, it it believed that the stopping of the eastbound local will involve little hardship for either the company or the traveling public, since the train already stops at least twice a week and operating conditions are favorable for the eastbound movement at this point. The cost of stopping trains like these has been estimated at from 25 to 27 cts., and the time consumed in coming to a stop and getting under full headway again as three minutes. These estimates are presumably based on strictly normal conditions. As has been seen, however, the stop here is on a descending grade, and it is believed that the loss would be practically negligible.

In this connection brief mention should be made of a recent order of the Commission, *H. R. Anderton et al. v. M. St. P. & S. S. M. R. Co.*, issued April 6, 1914, 14 W. R. C. R. 227, in which a previous order requiring the stopping of the respondent's trains No. 5 and No. 6, being those here involved, on signal at Readfield, Waupaca county, is vacated. The Commission describes the character of these trains as has been stated above in

the present case, and comes to the conclusion that, all things considered, Readfield is adequately served by the stopping of one passenger train in each direction, and that the *additional* stopping of 5 and 6, their interstate character, schedule, etc., considered, is not justified. The statement made that No. 5 and No. 6 "should not be required to increase the number of stops," must be considered in connection with the circumstances of that case. It is too well settled to require citation that each locality is entitled to adequate service, and that, if it can be secured in no other way, interstate trains may be stopped, though the option would be open to the company of meeting these needs properly in some other way, leaving it free to operate its interstate business unhampered.

Correspondence preceding and subsequent to the filing of the complaint, as well as the testimony, leads to the inference that there may have been a number of minor inattentions, possibly a lack of courtesy at times on the part of train crews towards persons having Eidsvold as their destination; also the unloading of the petitioner's freight on an open platform in unfavorable weather. As to the latter, the petitioner stated to the Commission's engineer, who inspected the situation there, that the superintendent of the railway company had promised him to have the platform rebuilt and a cover constructed over it, which would remedy his complaint as to this point. As to the former, no proof was before the Commission except one instance, and then the superintendent was apparently successful in straightening matters out. A lack of courtesy on the part of the train crews, as alleged, would, if true, create an intolerable situation, and one not to be countenanced, and the company doubtless has taken, or will take, such measures as necessary if such a situation has existed or does exist. However, in justice it must be said that if there has been friction between the petitioner himself and train crews, it is not clear from information before the Commission that the petitioner has been entirely without blame in the matter.

NOW, THEREFORE, IT IS ORDERED:

1. That the respondent company, the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, take such measures as shall be necessary to furnish passenger service, which shall be adequate in every respect, to and from Eidsvold, Clark county, Wis., on its eastbound passenger train, designated in its time-table No. 13, as of October 12, 1913, as No. 6 Chicago-Eau Claire local.

This part of the order is to apply to those days on which the company finds it necessary to regularly stop this train for cream shipments from Eidsvold, heretofore Tuesdays and Fridays. On such days passengers to and from Eidsvold are to be afforded reasonable service in all other respects, and are to be charged for their transportation, of course, only the lawful rate of fare to and from that point.

2. That, in addition to the said service, which is to be afforded on those days on which the above train stops regularly for cream shipments, the respondent company, for a period of three months from the time of taking effect of this order, stop the above eastbound local passenger No. 6 at Eidsvold also on other week days on signal or request to the conductor for the purpose of taking on or letting off passengers at that point.

3. That for the said period of three months the respondent company keep a complete and accurate record of the passenger business at Eidsvold, at the expiration of which period the Commission will make such further order as the facts may warrant.

IN RE PETITION OF THE PARAMOUNT POWER AND REALTY COMPANY RELATIVE TO ALLEGED OBSTRUCTIONS TO NAVIGATION IN THE BEAVER DAM RIVER IN THE CITY OF BEAVER DAM, WISCONSIN.

Submitted Nov. 17, 1913. Finding filed May 13, 1914.

The petitioner complains that a building constructed in 1910 by the Masonic Temple Association over and completely across the Beaver Dam river in the city of Beaver Dam obstructs the natural flow of water in the river and the free use of the river and in case of high water, obstructs and sets back the water in the river, to the great damage of the petitioner. The petitioner owns several lots of land located at the outlet of Beaver Dam Lake into the Beaver Dam river and a dam known as the Cotton Mill dam, which is constructed upon this property and used by the petitioner in developing water power. The building in question and certain other buildings are located in whole or in part over the Beaver Dam river between the petitioner's dam and another dam farther down stream known as the Upper Woolen Mill dam. The construction of the latter dam some time prior to 1845 greatly increased the width of the stream through the overflowing of adjoining land, but the riparian owner, evidently assuming that the submerged land outside the banks of the original stream still belonged to him, in conveying his land to various purchasers granted the right to extend structures over the submerged land for a distance of 30 feet, although not to the banks of the original stream. Since then no regard has been given to the stream as a public thoroughfare.

Finding: 1. The Beaver Dam creek or Beaver Dam river in the city of Beaver Dam between the Upper Woolen Mill dam and the Cotton Mill dam is a navigable stream.

2. The stream is navigated by small boats used for fishing and pleasure, and for the repairing of buildings which extend over the submerged land.

3. The buildings encroaching upon the stream as indicated upon the map contained in the record herein constitute obstructions to such navigation.

The legality of the maintenance of the obstructions in question is not passed upon.

This is a proceeding under sec. 1596 of the statutes. The matter was investigated and the finding of the Commission reported to HIS EXCELLENCY FRANCIS E. MCGOVERN, Governor.

The petitioner is a corporation engaged in the business of acquiring and holding real estate, constructing buildings thereon, improving the same and owning and operating water powers,

having its main office at Beaver Dam, Wis. It alleges that it is the legal owner of out-lots one, three, four and six and other property in the city of Beaver Dam, which said real estate is located at the outlet of Beaver Dam Lake; that upon said property is located a large dam built of concrete, owned by the petitioner and used for water power purposes; that such power is leased to the Paramount Knitting Company and is a valuable power; that the outlet of Beaver Dam Lake is the Beaver Dam river, a navigable stream, which flows in the bed of a natural water course through a portion of the business section of the said city of Beaver Dam; that the said water power is constantly in use and that all the power which said dam and plant is capable of producing is required for use in operating the plant of the said Paramount Knitting Company, which company is operating a large factory near said dam; that Beaver Dam Lake is formed by reason of said dam, extends above said dam for a distance of ten miles, is about one mile in width and covers an area of about six thousand acres; that the said Beaver Dam river below said dam is about one hundred twenty feet in width and continues at said width until it empties into the pond formed by another dam lower down the river; that the petitioner and its predecessors in title have for a period of more than fifty years immediately last past maintained the dam at the place where the petitioner's dam is now located and have ponded the said Beaver Dam Lake at the height at which it is now maintained, and that during all said time the petitioner and its predecessors in title have discharged the water from said pond into said Beaver Dam river with full right so to do and in hostility to the right of any and all persons having or claiming to have any right, title or interest as riparian owners, or otherwise, in and to the bed of the said river or any part thereof, and have made use of said river and the bed thereof inconsistent with and contrary to the interests and adverse to the title of any and all riparian owners or claimants of riparian rights in and to said stream and the bed thereof and any part thereof; that the petitioner succeeded to all the right, title and interest of the Beaver Dam Cotton Mills, a corporation, and in and to the said dam, water power, rights, privileges and appurtenances thereunto belonging; that it is the possessor of the legal right to have said Beaver Dam river flow in its natural bed from the said dam to a point and place which is being obstructed as hereinafter fully set forth, with the full right that said natural

water course shall flow in its natural bed free, uninterrupted and unobstructed; that along the bank of the said river below said dam there are constructed a number of buildings used for business purposes, fronting on Front street and north and south of Center street, and between Center and Spring streets in said city of Beaver Dam; that the Masonic Temple Association, a corporation, is the owner of a lot situated directly north of Center street and west of Front street and on said river south of petitioner's dam that the said Masonic Temple Association has constructed a building on said lot owned by it, which said building extends beyond said lot and over and across said river; that said building was constructed during the summer of 1910 of brick and is 91 feet long, 70 feet wide and is 30 inches above the natural surface of the water in the river and lies upon concrete piers, 36 inches in diameter, built close together in the river and covers the river from shore to shore; that the piers so built in the river greatly obstruct the natural flow of the water in said river and that the said building in case of high water obstructs and sets back the water in said river, all to the great damage of the petitioner; that the said association never obtained nor received any permission from the legislature of this state to place said obstruction in said river, or in any wise to obstruct or interfere with the natural flow of the water therein; that said building obstructs the free use of said river and interferes with the free flowage thereof.

The matter came on for hearing on November 17, 1913. The following appearances were entered: *Grotophorst, Evans & Thomas* on behalf of the Paramount Power & Realty Company; *Charles C. Miller* and *Paul O. Husting* on behalf of the Beaver Dam Realty Company; *Binzel & Wein, Louis Ziegler* and *Burke & Lueck* on behalf of the Masonic Temple Association; *John O. Healy* on behalf of the city of Beaver Dam.

The Beaver Dam creek, also called in the record the Beaver Dam river, is a non-meandered stream and has its source in Fox Lake. It flows in a southeasterly direction to and through the city of Beaver Dam, thence in a southerly direction in and through Mud Lake, which is but an enlargement of the stream, thence easterly and empties into a stream known as the Crawfish, which latter stream empties into the Rock River.

The earliest knowledge we have of Beaver Dam creek is that contained in the testimony of John La Fayette Brower, aged 87

years. In 1842 his father and family settled at the point where the city of Beaver Dam is now located. At that time there was a marsh north and west of Beaver Dam through which the creek flowed. The width of the creek through the marsh was from 20 to 30 feet and the creek was, at the usual stage, about 2 feet in depth. Its average width throughout its course was approximately from 20 to 30 feet. When the witness first located on the stream Indians navigated the stream by means of canoes, for the purpose of fishing and hunting. Subsequently the witness used a canoe upon the stream for the purpose of hunting. Since then two dams have been constructed across the stream within the limits of the territory now ocupied by the city of Beaver Dam. The dam belonging to the petitioner is known as the Cotton Mill dam and the one south of it is known as the Upper Woolen Mill dam. The former was constructed by one Drake in 1842. The latter was constructed prior to 1845 as appears from a bond for a deed, given by George W. and John L. Brower bearing date September 1, 1845, which recites that the pond formed by the Upper Woolen Mill dam had not yet filled. The Cotton Mill dam forms a lake north thereof known as the Beaver Dam Lake. Its length is about 14 miles and its average width is about 2 miles.

The petitioner's mill or hosiery factory is located upon the bank adjoining the dam and the power for operating the machinery of the plant is furnished by the water from the dam. Motor boats and crafts of various kinds are used upon the lake for the purpose of hunting, fishing and pleasure trips.

In a franchise granted to the Beaver Dam Manufacturing Company in ch. 331, laws of 1854, the following provisions are found:

"Section 7. The said company are hereby authorized to keep and maintain the upper dam now erected across Beaver Dam creek, at the village of Beaver Dam, in the county of Dodge, in case the present proprietors shall convey all their right, title and interest in and to the same, and to the parcels of land on which it abuts, to the company hereby incorporated, for the purpose of creating a water power for the manufacture of iron, and for other manufacturing and grist mill purposes: Provided, that said dam now erected or the dam hereafter erected shall not be raised so as to cause the water to flow over more or other lands than are already flowed over on account of such dam at its present height; and in the event of the said dam causing the water to flow upon lands other than those belonging to said company; and if the said company can not agree with the owners

thereof as to the amount of compensation to be paid for damages to such lands by reason of such flowing, then the question of damages to such land shall be submitted to arbitrators. * * *

"Section 8. The said company shall keep and maintain a good slide for the passage of rafts, and the ascent and descent of fish; and the lake so improved and extended by the raising of said dam shall be deemed a public highway in all parts within high water mark, and free from any tax, duty or impost for the navigation of the same"

The headwater at this dam is 11½ feet and the headwater at the Upper Woolen Mills dam is about 10 feet. The portion of the stream in controversy lies between these two dams. From the Cotton Mill dam the stream flows northeasterly passing under the Beaver street bridge and Center street bridge and thence in a southerly direction to the Upper Woolen Mill dam. The natural width of the stream prior to the erection of the dam, as has been stated, was from 20 to 30 feet. A plat was offered in evidence known as the Brower & Ackerman plat, showing the original survey of the pond. The plat in connection with the survey made by Mr. Blake of the engineering department of the Commission shows that the channel of the river has remained in substantially the same place. According to the testimony of Mr. Blake based upon his survey, the Beaver Dam river is 120 feet wide just below the Cotton Mill dam, 100 feet at the Beaver street bridge, 75 feet at the Center street bridge, 200 feet at the railroad bridge, and 240 feet at the Upper Woolen Mill dam. The depth of the stream between the two dams measured in the center at intervals of 100 feet varied from 1½ feet at the Cotton Mill dam to 4½ feet at the Upper Woolen Mill dam. Between the Beaver Dam street bridge and the railroad bridge the variation was from 3 feet to 5 feet.

Regarding obstructions in the stream between the two dams it appears that the owner of the Upper Woolen Mill dam, when this dam was constructed, owned the land on both sides of the stream. As was stated, the stream at the time of construction of the dam was about 30 feet in width at most. After the pond formed by the dam had filled, it overflowed adjoining land so that the width of the stream approximated in width 240 feet at the dam. Evidently assuming that the submerged land outside the banks of the original stream belonged to the riparian owner, in conveying the same by lots to various purchasers, such owner granted, in the conveyance to the grantee, the right to extend structures over

the submerged land for a distance of 30 feet. This grant, however, did not carry such right to the banks of the original stream. Since then no regard has been given to the stream as a public thoroughfare. Buildings have been extended over the stream to such an extent that near Center street there is left an open space of but 4 feet and 10 inches between two buildings built upon the opposite sides of the stream. In 1910 the Masonic Temple Association erected a building just west of the Center Street bridge extending from one bank of the stream to the other.

The principal use made of the stream between the two dams since the construction of the Upper Woolen Mill dam has been by persons who maintain boats for the purpose of fishing or gathering water lilies. It also appears in evidence that a scow was sometimes used in repairing buildings which extended over the submerged land.

For the past twenty years the two buildings first above mentioned with a space of only a little over four feet between them, have prevented free passage for boats and since the erection of the building of the Masonic Temple Association covering the entire width of the stream, it has been practically impossible for boats to pass under the building. At the time the engineer of the Commission made his survey he used a flat bottomed boat, and by lying down in the boat was able to pass under the building. However at this time it appears that only one wheel was in operation in the petitioner's factory which was carrying but half a load, and that hence the amount of water discharged into the stream was limited, probably not exceeding 6 M cubic feet of water per minute. According to the testimony it appears that during the high water in 1912 and 1913 the stream reached to within 3 or 4 inches of the sill of the Masonic building.

The foregoing statement contains all the salient facts disclosed by the investigation and material to the issues involved in this case. Although the testimony introduced upon the hearing is voluminous, much of it is cumulative and relates to matters which are either not in dispute or have no bearing upon the questions that may be properly considered in this proceeding. Every essential fact seems to be conceded or established by undisputed evidence. That the stream in question is navigable for certain purposes, and that the buildings encroaching upon the stream are obstructions to such navigation are uncontradicted facts. Whether such navigation is of such a character as is contemplated

by the statute is a question upon which counsel are not agreed. Notwithstanding the exhaustive discussion of this question found in the briefs of the counsels for the respective parties represented at the hearing, we do not deem it necessary to express an opinion. What was said in the report of the Commission in the matter of the petition of C. S. and C. W. Jackman relative to alleged obstructions to navigation in the Rock river in the city of Janesville, 1914, 14 W. R. C. R. 190, is equally applicable to this phase of the instant case, hence further comment is here omitted.

It is the judgment and finding of the Commission:

1. That the Beaver Dam creek or Beaver Dam river in the city of Beaver Dam between the Upper Woolen Mill dam and the Cotton Mill dam is a navigable stream.

2. That such stream is navigated by small boats used for fishing and pleasure, and for the repairing of buildings which extend over the submerged land.

3. That the buildings encroaching upon such stream as indicated upon the map contained in the record herein constitute obstructions to such navigation.

TOWN OF GENEVA

vs.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted Oct. 20, 1913. Decided May 15, 1914.

The petitioner alleges that a crossing on the respondent's line where it intersects the road leading from Lake Geneva to Williams Bay is dangerous. The respondent offered in its answer and at the hearing to install electric bells at the crossing but has since proposed to substitute for the protection now afforded by a flagman a grade crossing signal known as an "Automatic Flagman".

Held: The crossing is dangerous. The respondent is ordered to install and maintain an "Automatic Flagman" or some other suitable automatic device for protecting travelers both by day and by night, plans to be submitted for approval. Ninety days is considered a sufficient time within which to comply with this order.

The petitioner, a regularly organized town in Walworth county, alleges in substance that a crossing on the line of the Chicago & North Western Railway Company where it intersects the road leading from Lake Geneva to Williams Bay, is dangerous to public travel on account of the surrounding physical conditions. The Commission is therefore asked to require the respondent to install some protective device or otherwise safeguard the crossing.

The respondent, in its answer, alleges that it now employs a flagman at the crossing; that the speed of trains at this point does not exceed eight miles per hour; and that arrangements are now being made to install an electric bell two hundred feet from the center of the track on each side of the crossing. It therefore asks the dismissal of the petition.

A hearing was held on October 20, 1913, at Lake Geneva. *Charles Wurth* appeared for the petitioner and *C. A. Vilas* for the respondent.

The testimony shows that at the crossing in question, which is seven-tenths of a mile east of Williams Bay, the highway runs northwest and southeast, and the single track line of the Chicago & North Western Railway Company curves from the northeast

to southwest. The railway line lies in a cut which is about twelve feet deep, and the highway descends to the track in a depression from either side. From the northwest highway approach the view to the southwest is limited by the curve in the track beyond a point about 1,500 feet from the crossing. Obstructions nearer the crossing are fruit trees, brush along the highway, and the banks of the cut.

A train approaching from the northeast is also hidden in the cut. A traveler coming toward the crossing from the southeast can see a train about one-fourth of a mile to the southwest. To the northeast the view is limited by rising ground, by a row of trees on private property and by a barn. If grain were cultivated in the fields adjacent to the crossing the view of trains would be further obstructed.

The highway is a main traveled road leading from Lake Geneva to Delavan Lake. Travel is especially heavy during the summer, since the locality contains popular lake resorts. The town chairman estimated that from May to September from fifty to one hundred and fifty automobiles cross daily in addition to the usual team traffic. A count made for the company on October 4 and October 5, 1913, between the hours of 7 a. m. and 7 p. m. shows a daily average of sixty-five vehicles and seven pedestrians. During the winter eight passenger trains and four freight trains are operated over the crossing. From May to September there are two additional passenger trains, and during July, August and a part of September the service is further increased by four passenger trains which are operated on Saturdays and Mondays only. Thus the regular train movements at the busiest season total eighteen. Few extra trains are operated over this branch line. The company's superintendent stated that all trains run comparatively slow at the crossing because of its proximity to Williams Bay and because of the grade. He said that a slow order is in force during the summer months. An engineer of the Commission observed the speed of several trains at the crossing on March 27, 1914, by means of a stop watch and actual distances, and reports that one train crossed at an estimated speed of 22 miles an hour, and another at 38 miles an hour.

The town chairman expressed the opinion that a separation of grades by means of an overhead highway crossing is desirable, and stated that the town is willing to assume its proper share of the cost entailed by such an improvement. He asserted that the

flagman employed at the time of the hearing is inefficient, and objected to the installation of electric bells, as proposed by the company in its answer, on the ground that such bells do not always work properly.

The Commission's engineer has examined the crossing and reports that grade separation is feasible, but that in his opinion the conditions of traffic at the present time do not warrant the large expenditure necessary for constructing an overhead highway crossing. He recommends the installation of a bell and light, and the employment of a flagman during the summer months.

The company has maintained a flagman at the crossing since the hearing. Under date of May 5, 1914, plans were submitted for the installation of an "Automatic Flagman" in place of the existing protection. This device is a combined visual and audible grade crossing signal, consisting of a round steel disc, painted red, mounted upon metallic arms, with "STOP," "LOOK OUT" painted in white letters on both sides of the disc, in the center of which are standard ruby red lenses with an incandescent lamp between them. Upon the mechanism case and just below the disc is mounted a standard twelve inch trolley gong, two incandescent lamps being mounted on the rocker arms. The latter serve to light the crossing and to give assurance to the engineer of an approaching train that the "Automatic Flagman" is in operation. The mechanism is driven directly from the motor, the rocking arm causing the disc and lights to swing back and forth and the gong to ring. The machine is geared to about thirty-five operations a minute.

In the light of the testimony and the report of our engineer, it is our judgment that the installation of an "Automatic Flagman" as proposed by the respondent will adequately safeguard this dangerous crossing under the existing traffic conditions. Such a device will accordingly be ordered, subject to inspection and approval by the Commission after a reasonable period of trial. No testimony was introduced to show the necessity of a separation of grades at this crossing, and inasmuch as the petition prays only for the installation of some protective device, the matter of grade separation, which was casually brought forward by the town chairman at the hearing, is not considered in this decision. The order herein will not prejudice the consideration of a petition praying for grade separation, should the town de-

sire to introduce further evidence, or should the traffic materially increase beyond the amount indicated by the testimony.

IT IS THEREFORE ORDERED, That the respondent, the Chicago & North Western Railway Company, install and maintain at the highway crossing on its line seven-tenths of a mile east of Williams Bay in the town of Geneva, Walworth county, an "Automatic Flagman," or some other suitable automatic device for protecting travelers both by day and by night, plans to be submitted to the Commission for approval.

Ninety days is considered a sufficient time within which to comply with this order.

H. KITTLESON ET AL.
vs.
ELROY MUNICIPAL WATER AND LIGHT PLANT.

Decided May 16, 1914.

Complaint is made that the rates charged by the Elroy Mun. W. & Lt. Plant for electric current and water are discriminatory and insufficient and that the records and accounts relating to the operation of the utility are unsystematic and unsuitable and not in accordance with the rules prescribed by the Commission. A valuation was made and the revenues and expenses were estimated, in the absence of satisfactory records, upon the basis of such information as was available. The expenses so estimated were apportioned for the electric department between capacity and output and further apportioned between street lighting and commercial lighting; for the water department they were apportioned between general service and fire service and further apportioned among capacity, output and consumer expenses. The utility has made no provision for depreciation and there has been no charge for municipal hydrant rental nor for street lighting.

Held: Both the electric rates and the water rates require revision. Because of the lack of definite information, however, the conclusions drawn as to what rates are reasonable are only tentative and may require modification when the utility is able to present such information to the Commission as the law requires a utility to have available.

The utility is ordered (1) to put into effect a schedule of water and electric rates fixed by the Commission and (2) to install and keep the accounts and records prescribed for it under date of April 20, 1914, subject to such modifications as the Commission may find necessary. The schedule of rates includes, among other things, provision for charges to be paid by the city of Elroy for fire protection and street lighting.

Complaint in this case was filed August 26, 1913. It alleges, among other things, that the respondent's rates are discriminatory and insufficient and that the records and accounts relating to the operation of the utility are unsystematic and unsuitable and not in accordance with the rules prescribed by the Commission.

Hearings were set for September 13, 1913, and April 10, 1914, but no appearances were made for either of the parties to the proceeding.

The lawful rates now in effect at Elroy appear to be as follows:

ELROY—ELECTRIC RATES.

Commercial Lighting.

METER RATES:

Minimum monthly bill, 50 cts.
Current, 10 cts. per kw-hr.
On bills not paid by the 25th of the month, 2 cts. per kw-hr. additional is charged.

FLAT RATES:

Special five year contract with the Chicago & North Western Railway Company for six 16-c. p. incandescent lamps as $12.50 for each three months period, and 5 multiple 110-volt enclosed arcs burning from midnight to daylight at $50 each per year.

Street Lighting:

26 6.6-ampere, a. c. series enclosed arcs, 10 of which burn on an all night moonlight schedule and 16 on a midnight moonlight schedule.
60 16-c. p., 106 volt a. c. multiple carbon incandescent lamps, burning from dusk to dawn every night.
5 200-volt, 6.6-ampere, a. c. series tungsten lamps burning 2,438 hours per annum on a moonlight schedule.

No charge is made for street lighting. It appears that the old arcs and other carbon incandescent lamps have been replaced during the past year by 51 120-watt tungsten lamps. The utility has filed no notification with the Commission of this change, evidently assuming that as no charge was made for this service, changes made need not be reported.

ELROY—WATER RATES.

Public service.....No charge
Street sprinklers, each wagon during season.....$6.00

Commercial Service:

METER RATES:

First	50,000 gallons	.....	25 cts. per	1,000 gals.
Next	50,000 "	.....	20 "	"
"	50,000 "	.....	15 "	"
"	50,000 "	.....	10 "	"
All over	200,000 "	.....	6 "	"

Minimum annual charge, $5.00 .

FLAT RATES:

	Per year
Minimum annual charge, $5.00.	
Banks, including one wash basin	$5.00
Barber shops, one chair	3.00
Each additional chair	2.00
Bath tubs in barber shops	3.00
Billiard rooms, each table	2.00
Blacksmith shops, one fire	3.00
Each additional fire	2.00
Boarding and lodging house and furnished rooms, per room	1.00
Building purposes for 1,000 brick—wetting and making mortar	.10
For 100 sq. yds. plastering	.15
For 1 cord stone	.10
Butcher shops	$8.00 to 10.00
Churches free, less the price of service pipes, cocks, etc.	
Dental offices	5.00
Drug stores	6.00
Dwelling houses, 6 rooms or less for each family	5.00
Each additional room	.25
Fountains flowing not exceeding 6 hours per day during the season, ⅛ inch orifice	12.00
Fountains, one-sixteenth inch jet	10.00
Fountains, one-fourth inch jet	20.00
Fountains, nozzles or revolving sprays	2.00
Hose for washing and sprinkling sidewalks, gutters, the outside of buildings, per lineal foot front business houses for season	.10
Same as above, private houses	.05
Hose for sprinkling lawns 2,000 feet or less	1.00
Hotels, per room	1.00
Livery, sale and feed stables, per single stall, (inc. washing carriages)	1.25
Offices	3.00
Photograph galleries	10.00
Private stables, 1 horse, 1 cow, or 2 horses, washing carriages	2.00
Private stables, each additional horse or cow	1.00
Private bath tubs	2.00
Printing offices	8.00
Public halls	5.00
Restaurants, if owner resides in same building	10.00
Restaurants, alone	6.00
Stores, 24 feet front or less	5.00
Stores, each additional foot	.25
Saloons	$10.00 to 15.00
Soda fountains	4.00
Urinals in hotels, boarding houses and saloons	3.00
Urinals in stores, banks and offices	3.00
Urinals in private houses	1.50
Wash basins, stationary, in private families, first basin free, all others	1.00
Water closets, private, per bowl	2.50
Water closets, public, per bowl	5.00
C. & N. W. Railroad (charge per month)	90.00

All bills are payable quarterly in advance on the first days of January, April, July, and October; if not complied with within 3 days, 10 per cent penalty will be added, if not paid within six days the water will be shut off.

Meter rates shall be payable monthly; 10 per cent penalty will be added if the rent is not paid in ten days after the same becomes due.

Meters are put in at the expense of the consumer.

Although all bills are payable quarterly in advance, this evidently does not apply to metered service. The meter schedule does not specify whether the quantities in each step are assessed monthly, quarterly, semi-annually, or annually. It appears that there is even no regularity in the readings of the meters at Elroy, some being read semi-annually, others annually, the semi-annual readings predominating.

Certain consumers, it is understood, are being supplied free, contrary to the provision of the Public Utilities Law. Such free service must be discontinued.

Value of Plant and City Equity.

From the records submitted to us no accurate information could be obtained regarding the original cost of plant or the indebtedness incurred by the city for the construction of the electric and water utilities.

The following is a record obtained from the books regarding bond issues and loans:

July 1, 1899—Electric Light Bonds, $10,000. Due July 1, 1919.
July 1, 1911—Extension & Improvement Bonds, $6,000.
Feb., 1906—State Loan $8,500. Amounts paid, Dec., 1910, $500; Dec., 1911, $500; Dec., 1912, $500; leaving a balance of $7,000.
Dec. 1898—State Bank Certificate, $2,000.
Dec. 1898—Citizens Bank, bills allowed, $4,687.72.

Outside of the bond issues no segregation was made of moneys used for city purposes and utility purposes.

Appraised Value.

A detailed inventory and appraisal of the property used and useful for water and electric service has been prepared. This

discloses the following costs to reproduce new and existing values, including materials and supplies of date January 1, 1914:

TENTATIVE VALUATION.

ELROY MUNICIPAL ELECTRIC LIGHT & WATER WORKS.

	Electric.		Water.		Total.	
	Cost new.	Present value.	Cost new.	Present value.	Cost new.	Present value.
A. Land	$300	$300	$300	$300	$600	$600
B. Transmission and distribution	10,416	6,696	20,196	17,830	30,612	24,526
C. Buildings and miscellaneous structures	3,718	2,492	8,667	7,279	12,385	9,771
D. Plant equipment	7,193	3,939	3,652	2,811	10,845	6,750
E. General equipment	179	86	178	89	357	175
Total	$21,806	$13,513	$32,993	$28,309	$54,799	$41,822
Add 12 per cent (see note below)	2,616	1,621	3,960	3,397	6,576	5,018
Total	$24,422	$15,134	$36,953	$31,706	$61,375	$46,840
F. Paving	.....	.....	.....	.....	.....	.....
Total	$24,422	$15,134	$36,953	$31,706	$61,375	$46,840
H. Materials and supplies	745	631	609	509	1,354	1,140
Total	$25,167	$15,765	$37,562	$32,215	$62,729	$47,980
J. Non-operating	2,090	529	.....	.....	2,090	529
Total	$27,257	$16,294	$37,562	$32,215	$64,819	$48,509

NOTE:—Addition of 12 per cent to cover engineering, superintendence, interest during construction, contingencies, etc.

If the books of a utility have been accurately kept and if correct methods of accounting have been followed, the books should show the total amount expended for construction and also the extent of the depreciation of the property. The book value should not ordinarily vary to any great extent from the cost of reproduction. In the instant case, however, this comparison cannot be made because of the lack of original records.

GENERAL RECORDS.

The general records of the electric and water departments are merged with the general city records. The reports of the utility to the Commission are little more than guesses, as no records were kept of the separation of expenses between the water and the electric departments, or between operating expenses and extensions. An examination of the accounts available for past years discloses the necessity of certain corrections in the allocation of many items. Upon the basis of the records as corrected, an in-

come account has, however, been arrived at for the period June 30, 1912, to June 30, 1913, which, it is believed, is complete enough to furnish a satisfactory basis for computing unit costs.

The following tables disclose the income account for this period:

ELROY WATER DEPARTMENT.

Year ended June 30, 1913.

REVENUES	
Commercial earnings	$2,757.37
Industrial sales	1,176.58
Miscellaneous earnings from operation	175.00
Total revenue	$4,108.95
EXPENSES	
Pumping	
Labor	$553.90
Steam generated	2,304.32
Supplies, maintenance, etc	90.87
Total pumping	$2,949.09
Distribution	
Labor	$300.00
Maintenance, supplies and expenses	242.00
Total distribution	$542.00
Commercial	$94.49
Total direct expenses	$3,585.58
Undistributed	41.30
Total operating expenses	$3,626.88
Gross income available for interest and depreciation	$482.07

ELECTRIC DEPARTMENT.

Year ended June 30, 1913.

REVENUES	
Commercial lighting earnings	$6,387.97
Miscellaneous earnings	240.00
	$6,627.97
EXPENSES	
Power	
Labor	$553.90
Steam generated	3,456.49
Maintenance, supplies and expenses	177.25
Total power	$4,187.64

Distribution	
Labor	$300.00
Maintenance, supplies and expenses	101.56
Total distribution	$401.56
Commercial	265.11
Total direct expenses	$4,854.31
Undistributed	123.90
Total operating expenses	$4,978.21
Amount available for interest and depreciation	$1,649.76

From the foregoing income accounts it will be seen that there has never been any charge made for municipal hydrant rental or for street lighting. This omission should be remedied if the rates are to be equitable to all consumers.

It should be noted here that miscellaneous earnings of the water department include $160 and the electric department $240 revenues from the sale of steam, allocated to each of these departments on the basis of steam generated for each. The revenues from this service, it appears from the data at hand, about offset the costs chargeable to this service. It is believed that, for the purpose of this analysis, a further detailed investigation and separation of these items need not be made. Under other circumstances and conditions, however, these items would be handled by a different accounting procedure which need not be discussed at this time.

No evidence is presented as to the proper rate of depreciation. Computations of the average life of various groups of depreciable property of similar plants would indicate that allowances for what would be reasonably required every year to offset depreciation in determining the cost of service might be placed at about 1 per cent of the total cost of reproduction new in the water department, and at about 4.5 per cent of the total cost of reproduction new in the electric department.

The amount available for a return upon property will, of course, to be to some extent dependent upon the amount which should be reserved to provide for depreciation. It appears from the records that no depreciation has ever been written off on either the water or electric departments. The nature of the items handled by the utility under the head of "Maintenance" and "Construction", much of the latter of which was replacement work, will indicate in a measure the amount which should

be set aside to provide for depreciation. An examination of the items under these heads does not indicate that a reserve to cover depreciation should be dispensed with. It is believed that a fair annual reservation for the electric department is $1,100, and for the water department $375.

With the above annual provisions for depreciation, the amounts available for interest and profits would be $549.76 in the electric department and $107.07 in the water department, on the basis of the adjusted income account for the year ended June 30, 1913. After deducting the non-operating deficit in the electric department, however, the amount available for interest is only $164.41.

The fact that no charge has ever been made for either hydrant rentals or for street lighting service naturally causes the operating expenses for both departments, when interest and depreciation are included, to exceed the revenues by considerable amounts.

Cost of Service.

A tentative apportionment of expenses, with a tax allowance and an interest allowance, for the purpose of these computations, upon a valuation of $16,294 in the electric department and $32,215 in the water department, shows that, with interest at 4½ per cent, capacity expenses of the electric department are $2,543.53, and output expenses are $4,347.91. The apportionment of the expenses of the two departments is summed up as follows:

ELROY ELECTRIC DEPARTMENT.

	Total.	Charged to street lighting.	Charged to commercial lighting.
Capacity	$2,543 53	$352 72	$2,190 81
Output	4,347 91	1,039 78	3,308 13
Total	$6,891 44	$1,392 50	$5,498 94

ELROY WATER DEPARTMENT.
Apportionment of Expenses
(Excluding Taxes, Depreciation & Interest.)

	Total.	Capacity.	Output.	Consumer.
General service	$3,064 32	$637 22	$2,019 00	$408 10
Fire service	562 56	521 36	41 20	.....
Total	$3,626 88	$1,158 58	$2,060 20	$408 10

Taxes, depreciation, and interest:	
General service	$1,092.16
Fire service	893.58
Total	$1,985.74

COST CURVE, ELECTRIC DEPARTMENT.

A cost curve resulting from the foregoing apportionment of expenses of the electric department has been determined. The records of the utility regarding the total connected load of the various classes of service, consumer statistics, amount of current generated and sales to consumers are very inadequate, so that estimates of these items necessarily had to be made in some instances.

COST CURVE, COMMERCIAL LIGHTING.

Hours' use per day.	Capacity cost cts.	Output cost cts.	Total cost cts. per kw-hr.
1	6.25	5.51	11.76
2	3.12	"	8.63
3	2.08	"	7.59
4	1.56	"	7.07
5	1.25	"	6.76
6	1.04	"	6.55
8	.78	"	6.29
10	.63	"	6.14
18	.35	"	5.86
24	.26	"	5.77

This shows, in general, the limits of a rate schedule constructed upon a cost basis. A rate schedule which will best fit the conditions existing at Elroy, aid in the development of the electric business and at the same time correspond closely to the cost curve shown above will be about as follows:

10 cts. net for all or part of first 3 kw-hr. used per month per 100 watts of active load.

8½ cts. net for all, or part, of next 6 kw-hr. used per month per 100 watts of active lead.

7 cts. net per kw-hr. for all current used in excess of 9 kw-hr. per month per 100 watts of active load.

STREET LIGHTING.

Statistics of importance regarding street lighting in Elroy are not as definite and exact as could be desired. Apportionment of the expenses charged to this service indicate a cost of $1 per lamp

per month for the 50-watt units, and $1.75 per lamp per month for the 120-watt units, the yearly costs being $12 and $21, respectively.

Probable Revenue, Electric Department.

It was estimated that the sales of current to commercial service would amount to approximately 60,000 kw-hr. divided as follows: primary 60 per cent or 36,000 kw-hr.; secondary 34 per cent or 20,400 kw-hr.; excess 6 per cent or 3,600 kw-hr. At the rates outlined above revenues from this service will be about $5,582, or $83.06 in excess of the expenses charged to this class of service.

Revenue from street lighting will amount to about $1,404, the excess above operating expenses charged to this service being $11.50.

Cost of Service, Water Department.

Water department records are inadequate, the same condition prevailing as found in the electric department. The reported pumpage of 48,000,000 gallons would be high for a city of the size of Elroy except for the fact that water is supplied to the Chicago & North Western Railway Company for engine use and other purposes. No record of the consumption of this consumer exists. The railroad, however, may use as much as 20,000,000 gallons of water per year, although this is a matter of conjecture. The other consumers, it is believed, will not use over 15,000,000 gallons.

The total cost of each class of service supplied by the water department is summarized below:

	Expenses of operation.	Interest, taxes and depreciation.	Total.
Fire service	$562 56	$893 58	$1,456 14
General service	3,064 32	1,092 16	4,156 48
			$5,612 62

General service cost is made up of $899.34 capacity expenses, $2,849.04 output, and $408.10 consumer expenses. In the absence of reliable data it is impossible to make the further alloca-

tion of costs to metered and flat rate consumers. A number of computations have been made upon the best estimate of the operating statistics we have been able to formulate, and from the results of these computations, it is believed that no changes need be made at present in the flat rates now in force. Meter rates, however, it is believed, should be modified, a schedule somewhat as follows being applicable to the situation in Elroy:

MINIMUM CHARGE—PAYABLE QUARTERLY.

Size meter	Charge
⅝ inch or less	$1.25
¾ "	1.50
1 "	2.25
1½ "	3.75
2 "	5.25
3 "	7.50
4 "	12.00

OUTPUT CHARGE.

First	5,000 gallons per quarter	Minimum bill.	
Next	45,000 " " "	22 cts. net per	1,000 gals.
"	50,000 " " "	18 " "	"
"	50,000 " " "	15 " "	"
"	50,000 " " "	10 " "	"
Over	200,000 " " "	5 " "	"

The following citation is applicable to the situation found in Elroy:

"The fact that sufficiently complete information for a careful revision of the respondent's rate schedule is not available, has already been alluded to. Under somewhat similar conditions, when the application has been for an increase of rates, the Commission has dismissed the case, holding it to be the duty of the utility to maintain such records of its operation as may be necessary for a proper analysis of its business. But under the conditions found in this case, the absence of certain information can hardly be permitted to stand in the way of those adjustments which available facts indicate will lead to greater equity between the utility and the public and between the different classes of consumers. To permit uncertainty, arising from the utility's failure to provide for ordinary utility records, to completely prevent adjustment and reductions of rates would be adding an additional incentive for failure on the part of the utility to determine and record important facts concerning its business with the public." *City of Rhinelander v. Rhinelander Ltg. Co.* 1912, 9 W. R. C. R. 406, 433.

Owing to lack of definite information at important points of this investigation and the necessity of making estimates, it is by

no means certain that the conclusions reached are in all respects accurate. When such information as the law requires a utility to have available is presented to this Commission, a careful analysis of actual instead of estimated operating conditions can be made, and more definite conclusions drawn. If experience shows that some of the conclusions in this case should be altered, the necessary modifications can be made when necessary.

IT IS THEREFORE ORDERED, That the city of Elroy discontinue its present schedule of water and electric rates and substitute therefor the following schedules:

WATER RATES.

1. *Fire Protection.* The city of Elroy shall be assessed $1,500 per annum.

2. *Street sprinkling*—present rates.

3. *General service.*

(a) Meter rates:

Minimum quarterly charges, one consumer on a meter.

⅝ in. meter	$1.25
¾ "	1.50
1 "	2.25
1½ "	3.75
2 "	5.25

Output Charge:

First	5,000	gals.	per	quarter	Minimum bill.					
Next	45,000	"	"		23	cts. gross,	22	cts.	net	per M gals.
"	50,000	"	"		19	"	18	"	"	"
"	50,000	"	"		16	"	15	"	"	"
"	50,000	"	"		11	"	10	"	"	"
Over	200,000	"	"		6	"	5	"	"	"

Free service shall be discontinued.

(b) Flat Rates: present charges.

Rules for payment: Flat rates—Consumers to be allowed 10 days in which to pay accounts. Meter rates—all accounts shall be billed at the gross rate. If paid within 10 days, the difference between the gross and net rates, or one cent, shall constitute a discount for prompt payment.

ELECTRIC RATES.

Commercial Lighting.

Schedule of rates for all lighting service furnished residences and businesses and passing through the same meter and measured by a meter or meters owned and installed by the company. This lighting service will include electric energy furnished for appliances other than lighting equipment, when the aggregate rated capacity of such appliances does not exceed 1½ kw.

Primary rate: 10 cts. net or 11 cts. gross for all or part of first 3 kw-hr. used per month per 100 watts of active load.

Secondary rate: 8½ cts. net or 9½ cts. gross for all or part of next 6 kw-hr. used per month per 100 watts of active load.

Excess rate: 7 cts. net or 8 cts. gross for all current used in excess of 9 kw-hr. per month per 100 watts of active load.

Active connected load shall in each case be a fixed percentage of the total connected lighting load installed upon the consumer's premises.

In Class A, which shall include residences, dwellings, flats and private rooming houses, where the total connected load is equal to or less than 500 watts nominal rated capacity, 60 per cent of such total connected lighting load shall be deemed active; where the installation exceeds 500 watts nominal rated capacity, 33⅓ per cent of such part of the total connected lighting load over and above 500 watts shall be deemed active.

In Class B, which shall include all stores, offices, business and professional places, public halls, passenger depots, and theaters, etc., where the total connected lighting load is equal to or less than 2.5 kilowatts, nominal rated capacity, 70 per cent of such total connected load shall be deemed active; where the installation exceeds 2.5 kilowatts nominal rated capacity, 55 per cent of such part of the total connected load over and above 2.5 kilowatts shall be deemed active.

In Class C, which shall include county and city buildings, schools, factories, industrial establishments, shops, stables, garages and warehouses, 55 per cent of the total connected load shall be deemed active.

The minimum monthly charge for lighting service shall be $0.50 for each installation.

Street Lighting.

Street lights to burn on moonlight schedule.
50 watt units $1.00 per unit per month.
120 watt units $1.75 per unit per month.

Discount.

The utility shall bill all consumers at the gross rate and the difference between the gross and the net rates above specified, or one cent per kw-hr., shall constitute a discount for prompt payment.

A canvass shall be made of the connected load of every consumer now connected and of each new consumer upon the installation of each meter; and all bills rendered by the company to the consumer shall state plainly the connected load of each consumer and the percentage which is considered active in computing the rate.

IT IS FURTHER ORDERED, That the city of Elroy shall install and keep such accounts as have been prescribed for its electric and water departments, and such records as have been designed by this Commission and submitted to the utility under date of April 20, 1914, subject, however, to such modifications as this Commission finds necessary.

IN RE APPLICATION OF THE TREGO TELEPHONE COMPANY FOR AUTHORITY TO INCREASE RATES, TOLLS AND CHARGES.

TREGO TELEPHON COMPANY
vs.
EARL TELEPHONE COMPANY.

Submitted March 4, 1914. Decided May 16, 1914.

Two proceedings are involved in this case: (1) the Trego Tel. Co. applies for the establishment of such toll rates and charges as may be reasonable for service between the exchanges in Earl and Trego and service from the exchange in Trego to the exchange in Spooner; and (2) the Trego Tel. Co. petitions for a more equitable division between it and the Earl Tel. Co. of the toll charges collected for the transmission of messages over the line between Earl and Spooner, part of which is owned jointly by the two companies. At present service is free between Earl and Trego and from Trego to Spooner. For service from Spooner to Trego and either way between Spooner and Earl a toll charge of 15 cts. is made. The tolls collected for service between Earl and Spooner are divided equally between the Trego Tel. Co. and the Earl Tel. Co. The Trego Tel. Co. contends that inasmuch as it owns the major portion of the line the division should be made on the basis of 10 cts. to it and 5 cts. to the Earl Tel. Co. An approximate valuation of the lines involved was made and apportioned among the Trego Tel Co., the Earl Tel. Co. and the Spooner Tel. Co., the latter of which owns part of the equipment used; traffic conditions were determined as closely as possible and the annual cost to each company of the service in question was computed.

Held: 1. In view of the closeness of the exchanges of the Trego and Earl telephone companies, the limited extent of free service furnished by each of the companies, the relatively undeveloped condition of the telephone business in the district served and the fact that the return on the physical investment in the toll line is taken care of for both companies in the return computed from the toll charges allowed, it is advisable to continue the free service now maintained between Trego and Earl.

2. A toll charge of 10 cts. should be made for calls from Trego to Spooner.

3. The revenue collected from the toll charge of 15 cts. for calls between Earl and Spooner should be divided on the basis of 9 cts. to the Trego Tel. Co. and 6 cts. to the Earl Tel. Co.

It is ordered that a schedule prescribed by the Commission and embodying the foregoing conclusions be adopted.

The application of the Trego Telephone Company in the first of the above entitled cases sets forth that at the present time there is no toll rate in effect between the Earl exchange and the

Trego exchange or from the Trego exchange to the Spooner exchange and the applicant prays that the Commission make an order establishing such rates and charges between these exchanges as shall appear just and reasonable. In the second of the above entitled cases the Trego Telephone Company sets forth in the complaint:

1. That the petitioner, i. e. the Trego Telephone Company and the respondent, i. e. the Earl Telephone Company, own jointly 7¼ miles of line, of which the petitioner owns 6½ miles and the respondent only ¾ of a mile.

2. That a rate of 15 cts. per message between Earl and Spooner has been and now is in effect; and

3. That this toll charge has been divided equally between the Trego Telephone Company and the Earl Telephone Company, notwithstanding the fact that the petitioner owns the greater part of the line.

The petitioner therefore prays for a more equitable division of such tolls.

Hearing was held in these matters at the office of the Commission at Madison on March 4, 1914. *W. R. Campbell* appeared for the Trego Telephone Company. There was no appearance for the other parties concerned. Through an investigation which has been made of the situation by the Commission and from the testimony in the cases the following facts have been established:

The Trego Telephone Company operates an exchange in the village of Trego and serves a total of 90 subscribers, 30 of whom are within the village of Trego on single party full metallic lines and the remaining 60 are on rural grounded lines running in all directions from this village. One 150 drop Julius Andrae switchboard with 44 drops in use is installed at Trego. Rates for service are $12 per year per telephone.

The Earl Telephone Company operates three rural grounded party lines and one single party line, with a total of 45 phones connected. The territory covered by this company lies principally south and east of the village of Earl, although one line extends in a round-about way to the village of Springbrook which lies about four miles northeast of Earl. This company has two centrals, one of which it calls its "day central" and one its "night central." The "day central" is located at a store in the village of Earl, 3¾ miles east of Trego, and consists of a 10 line Julius Andrae wall type plug board. The "night central" is lo-

cated at the home of the company's manager about three miles southeast of the day central. By means of switches all lines are connected to the manager's residence after the store is closed at night. Rates for service are $12 per year per telephone.

Although the Spooner Telephone Company has not been made a party to this case, one of the toll lines in question enters the exchange of this company; hence a brief outline of the extent of operation of this company will be given that more light may be thrown upon the situation.

The Spooner Telephone Company operates one exchange located in the village of Spooner. 285 telephones belonging to this company besides a number of telephones which are attached to foreign lines are served by this exchange. A 300 drop switchboard, with 252 drops in use, is in operation.

The toll lines in question in these cases are two grounded through lines, one running between Trego and Spooner, 9.25 miles in length, and the other running between Trego and Earl, 3.83 miles in length. The following table gives the amount of toll charges now in effect over these lines and the division of the revenues among the companies:

From	To	Rate.	Spooner Tel. Co.	Trego Tel. Co.	Earl Tel. Co.
Spooner	Trego	15 cts.	15 cts.		
Spooner	Earl	15 cts.	15 cts		
Trego	Spooner	Free.			
Trego	Earl	Free.			
Earl	Spooner	15 cts.		7½ cts.	7½ cts.
Earl	Trego	Free.			

As has been previously pointed out the petitioner asks that such rates as the Commission finds just and reasonable be established upon calls both ways between Earl and Trego and upon calls from Trego to Spooner. Further, the petitioner contends that the present division of tolls between the Trego Telephone Company and the Earl Telephone Company on calls from Earl to Spooner is unjust, inasmuch as the petitioner owns much the larger share of the joint line used by the two companies. The petitioner prays that it be allowed 10 cts. instead of 7½ cts. on each message going through its exchange from Earl to Spooner.

An approximate valuation of the lines in question has been made by the Commission as follows:

AN ESTIMATE OF APPORTIONED VALUE OF TRUNK LINE BETWEEN TREGO AND SPOONER.

	Unit.	Quantity.	Unit price.	Cost of reproduction.	Scrap value.	Condition per cent.	Present value.
PROPERTY OF TREGO TEL. CO.							
Native poles	each.	40.0	$1.00	$40.00	.....	45	$18.00
25'–6"	"	.6	3.11	19.00	.....	.....	.....
10 pin X arms	"	.8	1.10	9.00	.....	90	25.00
4 " " "	"	40.0	.63	25.00	.....	.....	.....
No. 12 iron wire (gal.)	Mi.	3.25	11.60	38.00	.....	67	42.00
Central office equipment, cable, etc	.....	.....	5.00	5.00	.....	60	3.00
Total	.....	.....	.....	$136.00	.....	.....	$88.00
Add 12 per cent (see note)	.....	.....	.....	16.00	.....	.....	11.00
Total	.....	.....	.....	$152.00	.....	.....	$99.00
PROPERTY OF SPOONER TEL. CO.							
Native poles	each.	8.75	$1.20	$10.00	.....	45	$4.00
25'–5" cedar poles	"	119.0	2.43	289.00	.....	90	260.00
35'–6" " "	"	.45	7.77	3.00	.....	67	2.00
10 pin X arms	"	1.0	1.10	1.00	.....	.....	.....
4 " " "	"	22.75	.63	14.00	.....	.....	.....
Brackets	"	105.0	.03	3.00	.....	56	10.00
No. 12 iron wire	Mi.	6.0	11.60	70.00	.....	67	48.00
Central office equipment, cable, etc	.....	.....	8.00	8.00	.....	80	6.00
Total	.....	.....	.....	$398.00	.....	.....	$330.00
Add 12 per cent (see note)	.....	.....	.....	48.00	.....	.....	40.00
Total	.....	.....	.....	$446.00	.....	.....	$370.00

NOTE:—Add 12 per cent to cover engineering and superintendence, interest during construction, contingencies, etc.

AN ESTIMATE OF APPORTIONED VALUATION OF TRUNK LINE BETWEEN TREGO AND EARL.

	Unit.	Quantity.	Unit price.	Cost of reproduction.	Scrap value.	Cond. per cent.	Present value.
PROPERTY OF TREGO TEL. CO.							
35′–6″ cedar poles	each..	.5	$7.77	$4.00	.....	.....	.....
30′–6″ " "	" ..	.25	4.93	1.00	.....	.....	.....
25′–6″ " "	" ..	3.5	3.11	11.00	.....	.....	.....
25′–5″ " "	" ..	13.5	2.43	33.00	.....	.....	.....
20′–5″ " "	" ..	18.7	1.63	30.00	.....	.....	.....
6 pin cross-arms	" ..	5.5	.75	4.00	.....	.....	.....
4 " "	" ..	6.3	.63	4.00	.....	.....	.....
Brackets	" ..	73.0	.03	2.00	.....	.....	.....
Anchors	" ..	1.0	3.00	3.00	.....	.....	.....
No. 12 iron wire (gal.)	mi....	3.0	11.60	35.00	.....	.....	.....
				$127.00	.....	90	$114.00
Cable and central office equipment	.....	.....	5.00	5.00	.....	60	3.00
Total	.....	.....	.....	$132.00	.....	.....	$117.00
Add 12 per cent (see note)	.....	.....	.....	16.00	.....	.....	14.00
Total	.....	.....	.....	$148.00	.....	.....	$131.00
PROPERTY OF EARL TEL. CO.							
Native poles	each..	9.75	$0.80	.....	.....	.....	.....
Brackets	" ..	14.00	.03	$8.00	.....	60	$5.00
2″x6″ pine cross-arms	" ..	2.75	.50	1.00	.....	54	1.00
No. 12 iron wire	mi....	.85	11.60	10.00	.....	90	9.00
Central office equipment	.....	.....	5.00	5.00	.....	50	2.00
Total	.....	.....	.....	$24.00	.....	.....	$17.00
Add 12 per cent (see note)	.....	.....	.....	3.00	.....	.....	2.00
Total	.....	.....	.....	$27.00	.....	.....	$19.00

NOTE:—Add 12 per cent to cover engineering and superintendence, interest during construction, contingencies, etc.

The above valuation shows that taking the two toll lines as a whole the Spooner Telephone Company owns 57 per cent, the Trego Telephone Company 39 per cent and the Earl Telephone Company 4 per cent. Allowing reasonable amounts for interest, depreciation and maintenance on this property, we find that the companies concerned should receive as a return per year upon this part of their investment, amounts approximately as follows: The Spooner Telephone Company $89, the Trego Telephone Company $60 and the Earl Telephone Company $5.

Definite data as to the number of calls which will go over these lines under rearranged conditions and the exact cost of handling each call are not available. However, from such data as we have, computations have been made which indicate that the entire cost to each company of furnishing this service for one year,

including operating labor, proper return on investment, and all other items which should be considered is approximately as follows: Spooner Telephone Company $154, Trego Telephone Company $117, Earl Telephone Company $28. Further computations indicate that with a 10 ct. toll charge on calls from Trego to Spooner, with the 15 ct. toll charge from Earl to Spooner divided 9 cts. to the Trego Telephone Company and 6 cts. to the Earl Telephone Company, with free service between Earl and Trego and with no change in the rate from Spooner to either Trego or Earl, the total return to the companies per year for the maintenance of the service will about equal its cost as given above, and with the division of these toll charges as above indicated the revenues will be divided as equitably among the companies concerned as can be determined at this time. This schedule contemplates the retaining of free service between Trego and Earl.

In view of the following facts this free service seems in this case to be justifiable:

1. The companies involved are located closely together, and as a result the subscribers of both exchanges have much in common as is evidenced by the comparatively large number of calls per telephone passing daily between the two exchanges.

2. The extent of free service which either of these companies by itself furnishes its patrons is quite limited, covering only 45 phones for one company and 90 phones for the other.

3. The telephone industry in this section is now going through the earlier part of its development. The placing of a toll charge upon calls between these two exchanges, it is believed, would have a tendency to materially hinder the development of business of both companies.

4. The return on the physical investment in the toll line is taken care of for both companies in the return computed from the toll charges which have been allowed. The labor charge for the free calls, it is believed, in this case may well be considered as being included in the regular yearly rental paid by the subscribers of the companies.

Taking all of the facts into consideration, we believe that it will work no special hardship on the two companies to continue the free service and in fact it would appear rather to work to the advantage of both in the development of their business.

The part of the schedule contemplating a 10 ct. toll charge on

calls from Trego to Spooner would not seem to require much discussion. Heretofore messages from Trego to Spooner over this line have been free while messages in the opposite direction are charged for at the rate of 15 cts. per call. This has resulted in a very uneven distribution of the traffic between the two companies. Moreover, the Trego Telephone Company has had no return upon its investment in this toll line from calls which it originates and the return from other sources has not been sufficient to cover the expense incident to this service. The computations indicate that a 10 ct. toll charge upon this service, together with the 9 cts. per call on calls to Spooner from the Earl Telephone Company, will about cover the cost of handling these calls and provide a reasonable return upon this company's toll line investment.

With reference to the division of the toll charge on calls from the Earl exchange to Spooner between the two parties to this case it would at first seem, taking into consideration only the investment and operating labor, that the Trego Telephone Company should receive a large percentage of this toll charge. However, it must be borne in mind that the Earl Telephone Company is held responsible for the collection of the toll charges, the expense of which will offset to a considerable extent the higher investment of the petitioner. From computations which have been made of the cost to provide this service it seems fair that this 15 ct. toll charge be divided, 9 cts. to the Trego Telephone Company and 6 cts. to the Earl Telephone Company.

The Commission sees no good reason for postponing action in this matter as it has been requested to do by the petitioner. The following order will therefore take effect on June 1, 1914.

IT IS THEREFORE ORDERED, That the present schedule of toll rates and division of tolls involving the Trego Telephone Company and the Earl Telephone Company be discontinued and the following schedule substituted with division of all tolls as indicated:

From this exchange.	To this exchange.	Rate per call.	Revenue to Trego Tel. Co.	Revenue to Earl Tel. Co.
Trego	Spooner	10 cts.	10 cts.	.....
Trego	Earl	Free.	.....	.....
Earl	Spooner	15 cts.	9 cts.	cts.
Earl	Trego	Free.	.....	.....

D. ADAMS ET AL.
vs.
CHICAGO, BURLINGTON AND QUINCY RAILROAD COMPANY.

Submitted April 14, 1914. Decided May 25, 1914.

The petitioners allege that the passenger service rendered by the respondent at Victory, Vernon county, is inadequate and asks that the respondent be required to stop train No. 51, northbound, and train No. 58, southbound, at Victory for the purpose of receiving and discharging passengers. The trains named are interstate trains. Victory now receives passenger service from one passenger train and one freight train each way daily.

Held: The present service is adequate. The petition is dismissed.

The petitioners are residents of Victory, Vernon county, Wis. They complain of the inadequacy of the service furnished by the respondent railway company at that station.

The matter came on for hearing on April 14, 1914. There were no appearances for the petitioners. The respondent was represented by *Andrew Lees,* its attorney.

It appears that the village of Victory is served by two passenger trains daily, No. 53, northbound, and No. 54, southbound. The former arrives at Victory at 8:00 a. m. and the latter at 11:40 a. m. Freight trains No. 93, northbound, and No. 94, southbound, carry passengers. The former is scheduled to arrive at Victory at 3:40 p. m. and the latter at 8:45 a. m.

The objection to the existing service is that persons desiring to go to La Crosse on business have not sufficient time between trains to transact their business and therefore are obliged to remain over night in La Crosse.

To obviate this inconvenience the petitioners request that train No. 51, northbound, arriving at Victory at 5:00 p. m. daily, and train No. 58, southbound, arriving at 11:26 p. m., be required to stop for the purpose of receiving and discharging passengers.

According to the testimony of the respondent's agent at Victory, it appears that Victory is an incorporated village having a

population of 168 within a radius of a mile of the depot. The local freight trains mentioned run between Grand Crossing and Prairie du Chien. For the past year these trains have been run practically on schedule time. During the summer months they seem to be late from one-half hour to one hour. These trains are so scheduled that people can reach La Crosse in the evening and there connect with trains to Chicago and other points south.

For the year ending December 31, 1913, the total ticket sales at this station amounted to $2,551.23. This amount is said to be somewhat in excess of the usual annual revenues, due to the fact that construction work along the line resulted in the bringing in and taking out of laborers.

It would doubtless be a great convenience to the residents of Victory and vicinity if the service desired were granted. The minimum service prescribed by the legislature for stations having two hundred population or over is two trains each way where four trains each way were operated daily. While we do not regard this statute as fixing the maximum of service in all cases, yet it would be difficult under the showing made in this case to say that Victory had not a reasonable service, taking into consideration the population and surrounding country. In comparison with other stations of like importance on other roads, it would seem that the Commission could not legally justify an increase of the service upon the showing made. The trains which we are asked to stop are interstate trains and are obliged to make many additional stops which they were not required to make previous to the legislation mentioned. It would seem clearly within the decisions of the supreme court of the United States a burden upon interstate commerce to compel such trains to stop at stations of the size of Victory when local service is furnished such stations twice each way daily.

For the reasons stated we feel constrained to dismiss the petition.

NOW, THEREFORE, IT IS ORDERED, That the petition herein be and the same is hereby dismissed.

GEORGE RUDER BREWING COMPANY
vs.
CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Submitted May 12, 1914. Decided May 25, 1914.

The petitioner alleges that the charges exacted by the respondent for the transportation of certain carload shipments of beer from Wausau to Tomahawk and Minocqua are exorbitant to the extent that they exceed the rates established in *Wausau Advancement Ass'n v. C. M. & St. P. R. Co.* 1914, 13 W. R. C. R. 527, and asks for refund.

Held: The charges complained of were unusual and exorbitant. Refund is ordered on the basis of the rates fixed in the order cited.

The petitioner alleges that on and between May 26, 1913, and January 19, 1914, it shipped thirty-four carloads of beer from Wausau, Wis., to Tomahawk, Wis., and that on and between June 2, 1913, and January 7, 1914, it shipped seventeen carloads of beer from Wausau to Minocqua, Wis.; that the rates and charges exacted on such shipments are exorbitant to the extent that the rates and charges on said shipments exceed the rates established by the Commission in its order of January 3, 1914, rendered in the case of *Wausau Advancement Assn. v. C. M. & St. P. R. Co.* 1914, 13 W. R. C. R. 527. Wherefore, the petitioner prays that the respondent be authorized and directed to refund to it such excessive charge, amounting to $284.01.

The respondent railway company, answering the petition, denies all the material allegations thereof, except that the shipments were made as alleged.

The matter came on for hearing May 12, 1914. The petitioner was represented by *A. E. Solie,* its attorney, and the respondent by *J. N. Davis,* its attorney.

It appears that, as alleged in the complaint, the petitioner shipped thirty-four carloads of beer from Wausau, Wis., to Tomahawk, Wis., the total weight of which shipments amounted to 915,775 lb. The charges exacted amounted to $1,007.38, based upon a rate of 11 cts. per cwt. Also, as alleged, the petitioner shipped seventeen carloads of beer from Wausau to Mi-

nocqua, the total weight of which was 505,985 lb. The charges assessed were $657.41, based upon a rate of 13 cts. per cwt.

In *Wausau Advancement Assn. v. C. M. & St. P. R. Co.* an order was made and entered on January 3, 1914, reducing the rate from Wausau to Tomahawk to 9 cts. per cwt. and from Wausau to Minocqua to 11 cts. per cwt. Had these rates been in effect and applicable at the time the shipments moved, the proper charges on the shipments to Tomahawk would have amounted to $824.20 and those to Minocqua to $556.58.

In the *Wausau Advancement Association* case the Commission said (p. 533):

"From the facts in this case we have reached the conclusion that the present rates on beer in carloads from Wausau to Tomahawk and Minocqua over the line of the Chicago, Milwaukee & St. Paul Railway Company are unreasonbly high, from the point of view of the cost of service and in comparison with similar rates elsewhere; that a reasonable rate for such traffic, sufficient to pay all the operating costs and to yield a substantial return upon the investment, should not exceed 9 cts. per cwt. in the case of a haul from Wausau to Tomahawk and 11 cts. in the case of a haul from Wausau to Minocqua."

In view of the above findings it becomes unnecessary to consider the testimony presented in the hearing in the instant case. The unreasonableness of the charges exacted for the shipments in question is no longer open to question.

Under the circumstances we find and determine that the charges exacted of the petitioner of the aforesaid shipments of beer from Wausau to Tomahawk and Minocqua, respectively, were unusual and exorbitant and that the reasonable rates for such transportation services are those established by the order of the Commission in the *Wausau Advancement Association* case. The excess charge is $284.01, for which reparation will be made.

IT IS THEREFORE ORDERED, That the Chicago, Milwaukee & St. Paul Railway Company be and the same is hereby authorized and directed to refund to the George Ruder Brewing Company the aforesaid sum of $284.01.

IN RE PROPOSED EXTENSIONS OF THE LINE OF THE WISCONSIN TELEPHONE COMPANY IN THE TOWN OF ANSON, CHIPPEWA COUNTY.

IN RE PROPOSED EXTENSIONS OF THE LINE OF THE CHIPPEWA COUNTY TELEPHONE COMPANY IN THE TOWN OF ANSON, CHIPPEWA COUNTY.

Submitted May 21, 1914. Decided May 26, 1914.

The Wis. Tel. Co. filed notice with the Commission of its intention to make certain extensions of its lines in the town of Anson, Chippewa county. The Chippewa County Tel. Co. and the Cadott Tel. Co. filed objections. The Chippewa County Tel. Co. also filed notice of its intention to make certain extensions of its own in the town of Anson. The notice filed by the Wis. Tel. Co. involves eighteen proposed subscribers and that filed by the Chippewa County Tel. Co., sixteen. Four of the proposed subscribers of the Wis. Tel. Co. appear to be located on highways on which that company's line is already in service, passing the four residences, and there is therefore no question as to the propriety of the company's rendering service to these individuals. There is also no question as to the propriety of the extension of the lines of the Chippewa County Tel. Co. to reach three of its proposed subscribers who now have no telephone service and who are located much nearer the lines of that company than to those of any other company. Of the remaining proposed subscribers of the two companies eleven of those named by the Wis. Tel. Co. are identical with eleven of those named by the Chippewa County Tel. Co. Five of these eleven and the remaining three proposed subscribers of the Wis. Tel. Co. are now served by the Cadott Tel. Co. or are so located that the Cadott line runs along the highway past their houses. At the hearing both the Wis. Tel. Co. and the Chippewa County Tel. Co. indicated a willingness to relinquish their claims to these subscribers and the proposals of the two companies are therefore considered as amended to eliminate the persons living along the line of the Cadott Tel. Co. This leaves six persons claimed as prospective subscribers by both the Wis. Tel. Co. and the Chippewa County Tel. Co. together with two others claimed by the latter company but not secured as subscribers by the former. None of the six prospective subscribers claimed by both companies now receive telephone service and none are in a position to get service without an extension for some distance of the lines of one of the companies. All have signed applications for the service of the Chippewa County Tel. Co. although all had previously applied for the service of the Wis. Tel. Co. All expressed a preference for the service of the Chippewa County Tel. Co., because of its connections with persons located in Chippewa Falls and other points and on neighboring farms in the town of Anson. There is no physical con-

nection of any kind between the lines of the two companies. Evidence was introduced to show that the Chippewa County Tel. Co. was first to occupy territory in the town of Anson and that it has the preponderating number of rural subscribers in that town.

When there is a question as to which of two telephone companies shall be allowed to serve a given territory which is about equidistant from the lines of both companies and which is entirely new to both companies, so that neither will have to have its existing investment in any way impaired by the extension of the other, consideration may well be given to some matters that might be extraneous to the issue if an actual duplication of lines were contemplated. Among these are the preponderance of the subscribers of one company in the territory in question, the number and local importance of the points that can be reached without the use of toll lines, the relative length of time the two companies have been operating in the surrounding territory, and the business and social habits and needs of the individuals who are to use the new service. The greater diligence of one company in securing subscribers may also be taken into account in some cases.

While the duplication of service rather than the actual paralleling of lines is the thing principally to be avoided in the construction of new telephone lines, the extension of a paralleling line from which no service is permitted to be given to the persons living along it is likely to lead to friction and dissatisfaction, and the actual incumbering of the highway and the close proximity of the wires are also likely to be unsatisfactory. In the instant case the route proposed by the Chippewa County Tel. Co. which involves practically no paralleling of any line now furnishing local service to subscribers, seems to the Commission to be preferable to the alternative route proposed by the company which would parallel the Wis. Tel. Co.'s line for about half a mile and the Cadott Tel. Co.'s line for a mile and a half before reaching the point where it would enter new territory and take on subscribers of its own.

Held: Public convenience and necessity do not require the extensions proposed by the Wis. Tel. Co. to reach the six prospective subscribers involved in the issue between the Wis. Tel. Co. and the Chippewa County Tel. Co. No finding is made with respect to the other extensions covered by the amended proposal of the Wis. Tel. Co. or the extensions covered by the amended proposal of the Chippewa County Tel. Co. for the reason that authority vests in the respective companies by operation of law to proceed with the extensions in question as soon as the twenty day limit fixed by the statute has expired.

On May 6, 1914, the Wisconsin Telephone Company filed with this Commission notices of proposed extensions of its lines in the town of Anson, Chippewa county, Wis. Upon being notified of these proposed extensions, the Chippewa County Telephone Company filed its objection to them, and also filed notice of certain proposed extensions of its own in the town of Anson. Objection to the Wisconsin Telephone Company's extensions were also filed by the Cadott Telephone Company.

A hearing was held upon the proposition of both the companies, at Cadott, on May 21, 1914. The Wisconsin Telephone Company was represented by *J. F. Krizek,* the Chippewa County Telephone Company by *T. J. Connor,* and the Cadott Telephone Company by *O. J. Jensen.*

The notice filed by the Wisconsin Telephone Company involved eighteen proposed subscribers in the town of Anson. Of these, the four in sections 14, 23 and 19 appear to be located on highways on which the Wisconsin Telephone Company's line is already in service, passing the four residences, so that there can be no question as to the propriety of the company's rendering service to these individuals. Of the other fourteen subscribers, eight are now served by the Cadott Telephone Company or are so located that the Cadott line runs along the highway past their houses. The remaining six proposed subscribers are not now served by any telephone company and reside mainly on or near a north and south road which crosses at right angles the highway on which the Cadott Telephone Company's line is located.

The sixteen subscribers whom the Chippewa County Telephone Company proposes to attach to its system may be divided into two groups. The most northerly of these groups consists of three persons living in sections 4 and 10 of the town, who now have no telephone service. The Chippewa County Telephone Company is much nearer to them than is any other company and will be permitted to serve these persons without further question. Eleven of the remaining thirteen proposed subscribers of the Chippewa County Telephone Company are identical with eleven of the fourteen proposed subscribers of the Wisconsin Telephone Company above referred to. Five of these eleven are now served by the Cadott Telephone Company or reside along its lines. The eight remaining persons whom the Chippewa County Telephone Company proposes to serve include the six prospective subscribers of the Wisconsin Telephone Company mentioned above as residing on or near the north and south road, together with two others near the same road in sections 17 and 21.

As to the proposed subscribers of the Wisconsin Telephone Company and the Chippewa County Telephone Company who are now served by the Cadott Telephone Company or whose houses are now passed by that company's lines, no sufficient reason has been shown for the entrance of either of the two companies into the Cadott Telephone Company's field. In fact, at the close of

the hearing it was proposed by the Wisconsin Telephone Company that its extension should be constructed as not to reach any of these Cadott Telephone Company subscribers, and the Chippewa County Telephone Company also indicated a willingness to relinquish its claim as to these subscribers.

In effect, therefore, the proposal of each company may be considered to be amended so as to eliminate the persons living along the line of the Cadott Telephone Company. This elimination, as above pointed out, will affect five of the proposed Chippewa County company's subscribers and eight of the proposed subscribers of the Wisconsin Telephone Company. It did not appear very clearly at the hearing that these persons had any considerable complaint to make of the service they were receiving from the Cadott Telephone Company or of the rates they were paying to that company. Since an extension of either of the other lines to them would result in a clear duplication of service, it would not be proper, in the absence of convincing evidence of failure and inability of the Cadott Telephone Company to give satisfactory service, to admit another company into the identical territory occupied by it.

The elimination just suggested leaves six persons claimed by both the Wisconsin Telephone Company and the Chippewa County Telephone Company together with two others claimed by the latter company but not secured as subscribers by the former. Since none of them now have service or are able to get it without an actual extension of a telephone line for some distance to them, there can be no question that public convenience and necessity require the extension of one of the companies. The question to be determined is, which of the two companies shall be permitted to make the extension.

It appears from the evidence that most, if not all, of the six persons were approached by the Wisconsin Telephone Company in 1913, and applications for service were obtained from them. The extension of service was not made at this time, and a new set of applications were obtained from the six persons in the spring of the present year. Pursuant to the statute, notice was then filed with this Commission and with the Chippewa County Telephone Company of the Wisconsin Telephone Company's intention, and after the filing of this notice the Chippewa County Telephone Company sent representatives out to interview the proposed subscribers, and obtained from them applications for the Chippewa

County company's service. These latter applications were secured on May 15 and 16, 1914. Several of the proposed subscribers appeared as witnesses at the hearing, and when questioned as to the reason for successively signing contracts for the service of two different companies, the replies of the witnesses were to the effect that they were very desirous of obtaining telephone service and would rather have the service of the Wisconsin Telephone Company than none, but that they preferred the Chippewa County Telephone Company's service, and upon finding that that company was ready to extend to them they no longer desired the Wisconsin Telephone Company's service. It was further stated that since nothing was done in the way of an extension to them in 1913 when the first contracts with the Wisconsin Telephone Company were signed, the witnesses were doubtful as to whether that company would ever be ready to reach them and they were therefore the more ready to negotiate with the Chippewa County Telephone Company. Evidence was introduced to the effect that the Chippewa County Telephone Company was the first to occupy territory in the town of Anson and had the prepondering number of rural subscribers in that town; that the Wisconsin Telephone Company did not extend into any part of the town of Anson until the summer of 1913, beginning its line shortly before the passage of the statute restricting the extension of the telephone lines and completing the line soon after the law became effective. The witnesses stated that they frequently desired to converse with persons located on the Chippewa County Telephone Company's line in Chippewa Falls and other points reached on that line, and especially with persons located on neighboring farms in the town of Anson which are supplied with Chippewa County service. There is no physical connection of any kind between the lines of the two companies.

Under such circumstances as are disclosed by the evidence in this case, it seems that the preference of the persons most concerned with the use of the extension should be given considerable weight. From the geographical point of view there is no choice between the two companies since both would have about an equal length of line to construct. The territory is entirely new to both companies, so that neither will have to have its existing investment in any way impaired by the extension of the other. The preference of the proposed subscribers seems to be unanimously for the Chippewa County Telephone Company's line, and this

preference was shown not only in their signing contracts and in a signed statement filed as an exhibit in the case, but by the oral testimony which was given by several of them and was subjected to cross-examination by the attorney for the Wisconsin Telephone Company. In a situation, of this kind, consideration may well be given to some matters that may be quite extraneous to the issue in case an actual duplication of lines is contemplated; for instance, the preponderence of the subscribers of one company in the territory in question, the number and local importance of the points than can be reached without the use of toll lines, the relative length of time the two companies have been operating in the surrounding territory, and the business and social habits and needs of the individuals who are to use the new service, all are matters of some importance. This is especially true where, as in the present case, there is no physical connection between the lines of the two companies. In favor of the Wisconsin Telephone Company it may be said that that company apparently displayed the greater diligence in securing the subscribers; and in many cases where two companies are competing for entrance into the same unoccupied territory the enterprise of one company in soliciting business may give it a decided equitable advantage over another company. In this case, however, it is the opinion of the Commissioner that the considerations which, from the point of public convenience and necessity, favor the extension of the Chippewa County company's line to the subscribers in question, outweigh those in favor of the Wisconsin Telephone Company.

It is quite apparent that there is no necessity for the extensions of both the companies into the territory in question. The preponderance of the evidence seems to favor the proposition that the service of the Chippewa County Telephone Company is likely to satisfy the public convenience and necessity better than that of the Wisconsin Telephone Company. Since both companies have complied with the legal requirements precedent to the extension by filing the notices required by law, the conclusion that public convenience and necessity require the service of the Chippewa County line necessarily results in the further conclusion that public convenience and necessity do not require the line of the Wisconsin Telephone Company.

The Chippewa County Telephone Company has suggested two alternative routes for its extension to reach the eight subscribers involved in the branch of the case now under consideration. One

of these would parallel the Wisconsin Telephone Company's line for about half a mile and the Cadott Telephone Company's line for a mile and a half before reaching the point where it would enter new territory and take on subscribers of its own. Since no subscribers of the Cadott Telephone Company are to be disturbed as the result of the extension made in this case, it is highly preferable that so much paralleling of line should be avoided if another route is feasible. While the duplication of service rather than the actual paralleling of lines is the thing principally to be avoided in the construction of new telephone lines, the extension of a paralleling line from which no service is permitted to be given to the persons living along it is likely to lead to friction and dissatisfaction, and the actual incumbering of the highway and the close proximity of wires is also likely to be unsatisfactory. The second route proposed by the Chippewa County company, therefore, is the one which seems to the Commission to be preferable. This route involves practically no paralleling of any line which is now furnishing local service to subscribers. The route thus proposed will follow the north and south road along or near which the proposed subscribers live, will then run west of the center lines of sections 17 and 18 of the town, thence north a little less than a mile to a point on the boundary of section 7, where the existing line of the Chippewa County Telephone Company will be joined.

Since the proposals of both the Wisconsin Telephone Company and the Chippewa County Telephone Company are considered to be amended so as to eliminate the persons residing along the line of the Cadott Telephone Company, no finding will be made with respect to them. These subscribers are the ones designated as follows in the map filed by the Wisconsin Telephone Company: Three in the north half and one in the southwest quarter of section 29, two in the southeast quarter of section 20, and two in the north half of section 28. No finding need be made as to the four subscribers to whom, as already stated, the Wisconsin Telephone Company is to be permitted to extend, being those shown on the company's map in the southwest quarter of section 19, the northeast and southwest quarters of section 23, and the northeast quarter of section 14; nor will any finding be made as to the three subscribers in the northern group and the eight in the southern group to whom the Chippewa County Telephone Com-

pany is to extend. As to such subscribers, authority vests in the respective companies by operation of law to proceed with the extensions as soon as the twenty day limit fixed by the statute has expired.

We therefore find and determine that public convenience and necessity do not require the extensions of the Wisconsin Telephone Company's line as proposed by said company in the town of Anson, Chippewa county, Wis., so far as such extensions would reach subscribers located as follows: One in section 17, one in the north half of section 20, one in the southeast quarter of section 29, one in section 32, one in section 16, and one in the southwest quarter of section 28, in said town of Anson.

DAVID C. JONES
vs.
WISCONSIN RAILWAY, LIGHT AND POWER COMPANY.

Submitted Dec. 30, 1913. Decided June 2, 1914.

The petitioner alleges that the street railway service rendered by the respondent at La Crosse is inadequate and discriminatory in that it is arranged for the convenience of one class of patrons without regard to the necessities of laboring men and asks that the respondent be required to operate its cars on La Crosse street as far east as 25th street on a ten-minute schedule from 6 a. m. to 11 p. m. The respondent now operates cars on its Oak Hill-Cemetery line regularly to 18th street and during the period from May to October furnishes additional service to the golf links beyond 25th street on a schedule arranged with reference to the convenience of the patrons of the golf links, the service beginning about 9 a. m. and ending about 7 p. m. The extension of track to the golf links was made about 1901 in accordance with an agreement under which the golf club paid a part of the cost of construction and also bore a part of the operating expenses for the first three years. Traffic data submitted at the hearing and data gathered by the Commission show that the additional service prayed for would cost considerably more than the additional revenue which would be derived from it. No evidence is presented, however, to show that the earnings from the entire line in question would be so reduced by the granting of the additional service that proper service could not be rendered over this line and other lines of the respondent's system, with a reasonable return upon the value of the property used and useful for the public. The respondent operates the line on La Crosse street under a permissive franchise which authorizes it to construct and operate a single track line on La Crosse street from Forest avenue to such point as it may determine.

No power is vested in the Commission to authorize the abandonment of any line of street railway, but that matter is one over which the common council of the city has exclusive jurisdiction. *Lang v. City of La Crosse et al.* 1909, 3 W. R. C. R. 292, 298.

Held: 1. The respondent by constructing and operating its line as far east as 25th street has accepted the permissive franchise and thereby undertaken to supply street car service to that point.

2. It is the duty of the respondent to render adequate service to the full extent of its undertaking, even though such service is not remunerative, so long as the respondent assumes to operate under the permissive ordinance.

The respondent is ordered to operate its cars on La Crosse street from 18th street to 25th street on the same schedule as that on which its cars are or may be operated on the remainder of its Oak Hill-Cemetery line.

The petition alleges in substance that the service rendered by the Wisconsin Railway, Light and Power Company on its street car system at La Crosse is inadequate and discriminatory, being arranged for the convenience of one class of patrons without regard to the necessities of laboring men. The Commission is therefore asked to require the respondent to operate its cars on La Crosse street as far east as Twenty-fifth street on a ten minute schedule from 6 a. m. to 11 p. m.

The respondent, in its answer, denies that its service is inadequate or discriminatory and alleges that it now operates its cars to Eighteenth street, between which terminus and Twenty-fifth street there are less than twenty residents, very few of whom would patronize the service if it were extended. The dismissal of the complaint is therefore asked.

A hearing was held at La Crosse on December 30, 1913, at which *J. E. Higbee* appeared for the petitioner and *Geo. H. Gordon* for the respondent.

The testimony shows that about the year 1893 the respondent extended its tracks to the fair grounds located about three hundred feet beyond the intersection of La Crosse street and the track of the Green Bay & Western Railroad Company at Eighteenth street. When the golf club was organized about 1901, the track was extended to the club house, which is located several hundred feet beyond what is now known as Losey Boulevard or Twenty-fifth street. The golf club paid a part of the cost of constructing the track extension and also bore a part of the operating costs for the first three years. The company operates its cars beyond the Green Bay railroad crossing only during the period from May to October and arranges its schedules during those months with reference to the convenience of patrons of the golf links, the service beginning about 9 a. m. and ending about 7 p. m.

The petitioner testified that between the Green Bay railroad company's track and Twenty-fifth street there are twenty houses occupied by twenty families which average about four persons each. Six of these houses are located south of La Crosse street and west of the fair grounds, the remainder being in the Hill View Addition east of Myrick Park and north of La Crosse street. A number of children from these families attended a school which is at least ten blocks distant, and some of them use the street cars in going and coming. Residents of the Hill View

Addition are now obliged to walk from three to six blocks to the railroad crossing in order to secure car service. Moreover, in the summer months when cars are operated to the golf links they are not run early enough or late enough to be of much service to the residents of the Hill View Addition, most of whom are working people.

The respondent's general manager testified that of the fourteen houses located east of the fair grounds two were unoccupied on the day of his inspection about two weeks prior to the hearing. He offered in evidence a record kept by conductors showing the number of persons living east of the railroad crossing boarding and alighting from cars at the present terminus of the line, as follows:

Date.	Number of passengers living east of terminus.	Date.	Number of passengers living east of terminus.
Dec. 17, 1913	13	Dec. 23, 1913	36
" 18, "	10	" 24, "	12
" 19, "	23	" 25, "	5
" 20, "	20	" 26, "	5
" 21, "	17	" 27, "	13
" 22, "	15	" 28, "	16

A witness for the petitioner questioned the accuracy of these data and testified that to his knowledge fourteen persons living east of the terminus used the cars on December 25. It was also asserted that more than five school children regularly patronize the service twice on each school day.

Traffic data were gathered by the Commission's engineer for three days in March from 6 a. m. to 11 p. m. as follows:

NUMBER OF PERSONS USING STREET CARS IN GOING TO OR FROM POINTS EAST OF TERMINUS AT EIGHTEENTH STREET.

Period.	Friday March 13.	Saturday March 14.	Sunday March 15.
6 to 8 a. m.	3	5	0
8 a. m. to 12 noon	2	2	14
12 noon to 2 p. m.	2	3	8
2 to 5 p. m.	6	5	10
5 to 7 p. m.	4	9	5
7 to 11 p. m.	2	22	12
Total	19	46	49

Our engineer reports that during the period of observation a number of cars turned back at Sixteenth street instead of proceeding to the intersection with the track of the Green Bay & Western Railroad Company at Eighteenth street, which is supposed to be the present terminus. He expresses the opinion that the number of passengers riding during the Saturday and Sunday observed was somewhat greater than would be the case during more severe weather.

The company's general manager testified that the extension of service asked for by the petitioner would necessitate the operation of an additional car from October to May, which would cost $4.25 per day for platform duty, $3.44 for power, $0.25 for fuel and $1.50 for repairs and maintenance, making a total daily cost of $9.44. He expressed the opinion that the traffic obtainable in the district under consideration is not sufficient to warrant the regular operation of cars to Twenty-fifth street.

A study of the traffic data submitted at the hearing and the data gathered by our engineer, makes it clear that the additional service prayed for would cost considerably more than the additional revenue to be derived therefrom. It appears that if cars were operated to Twenty-fifth street on a ten-minute schedule, several trips would be made for each passenger who would ride beyond the present terminus. The data gathered by our engineer show the condition in this respect as follows:

Date.	Number of single trips observed.	Number of passengers who would have ridden beyond 18th street.	Number of trips required per passenger.
March 13	200	17	11.76
March 14	200	46	4.35
March 15	200	49	4.10
March 16	130	17	8.24

Our engineer expresses the opinion that if the cars were operated to Twenty-fifth street it would stimulate travel to some extent, but that the increase would be inconsiderable for some time to come. He states that the proposed service would require the operation of an additional car at a cost of from $7 to $8 per day.

Subsequent to the hearing the company submitted a copy of the franchise under which it operates the Oak Hill–Cemetery line. This ordinance, which was passed on February 16, 1893, grants to the respondent's predecessor, the La Crosse City Railway Company, "the exclusive right to lay down, build, construct, use, operate and repair a single track electric railway * * * running thence by and along Forest avenue to La Crosse street, and thence on La Crosse street to such point as said company may determine." This constitutes the only authorization for the construction and operation of the portion of the Oak Hill-Cemetery line concerned in this case.

It is argued by the city attorney of La Crosse in his brief on behalf of the petitioner that the company has undertaken to render street car service to the district in question, and that adequate service must necessarily include the operation of cars during the winter months when service is most needed by the residents of the territory beyond Eighteenth street. He further contends that the question of adequate remuneration should be considered only with reference to the Oak Hill-Cemetery line as a whole.

It is clear that the company enjoys a permissive franchise to construct and operate a single track line on La Crosse street from Forest avenue to such point as it may determine. Of its own free will it has constructed and operated to a limited extent a single track line as far east on La Crosse street as Twenty-fifth street, thereby accepting the privileges and assuming the duties incident to supplying street car service. Under such circumstances it is the duty of the company to render adequate service to the full extent of its undertaking, even though such service is not remunerative, so long as it assumes to operate under the permissive ordinance. (I Wyman on Public Service Companies, 302.) No power is vested in the Commission to authorize the abandonment of any line of street railway, that matter being one over which the common council has exclusive jurisdiction. *(Lang v. City of La Crosse et al.* 1909, 3 W. R. C. R. 292, 298.) However, if a line has been abandoned without the consent of the common council, and if the restoration of operation thereon would seriously threaten the efficiency of the service over the entire system, the authority to compel the restoration of such service should not be exercised. *(Brown v. Janesville Street Railway Company,* 1910, 4 W. R. C. R. 757, 764.)

In the present case a portion of a line has been virtually abandoned during a portion of each year without the consent of the common council. There is no evidence before the Commission to show that the earnings of the respondent from its Oak Hill-Cemetery line will be so reduced by the regular operation of cars to Twenty-fifth street, as prayed for, that proper service cannot be rendered over this line and other lines of its system, with a reasonable return upon the value of the property used and useful for the public. Under such circumstances it is clear that the company should be held to the fulfillment of its obligations to the city, and that an order should be entered requiring the operation of a reasonable street car service over the portion of the line in question.

The Oak Hill-Cemetery line is operated on a ten-minute headway throughout the year, and during the summer an additional car is placed in service, the ten-minute service being extended to the golf links for a portion of the day. With the existing track layout it is impracticable to operate the portion of the line beyond Eighteenth street without the extra car and on other than a ten-minute schedule, since the passing tracks are placed with that schedule in view. This end of the line, if operated, must be an integral part of the line, and receive service similar to that on other parts. A ten-minute schedule on this particular portion of the line will more than fulfill the requirements of adequate service, but whether a less frequent service over the entire line would be justified cannot be passed upon in this decision.

IT IS THEREFORE ORDERED, That the respondent, the Wisconsin Railway, Light and Power Company, operate its cars over that portion of its Oak Hill-Cemetery line from Eighteenth street to Twenty-fifth street on La Crosse street in the city of La Crosse on the same schedule under which its cars are or may be operated on the remainder of its Oak-Hill Cemetery line.

IN RE APPLICATION OF THE SEVASTOPOL FARMERS TELEPHONE COMPANY FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY.

Submitted Feb. 24, 1914. Decided June 2, 1914.

The Sevastopol Farmers Tel. Co. applies for a certificate of public convenience and necessity permitting it to construct a telephone system north from Sturgeon Bay, Door county, into the towns of Sevastopol, Egg Harbor and Jacksonport. The Door County Tel. Co. and Matt Peffer, each owning and operating rural telephone lines in the towns named, object to the granting of the certificate. The proposed new line would parallel the existing lines on the same highways for practically its entire length. This is sought to be justified by the alleged gross inadequacy of the service afforded by both of the existing systems. Because of the strength of the evidence offered on this point, an investigation of the service rendered by the objectors is ordered by the Commission on its own motion.

The fact that existing telephone service is inadequate is not ordinarily sufficient to justify the issuance of a certificate of public convenience and necessity permitting a new company to enter territory already occupied and fully covered by existing companies, but recourse should be had to the method provided by the Public Utilities Law for the correction of defects in service.

Held: Public convenience and necessity do not require the proposed construction.

The application in this case relates to a proposed telephone system to be constructed north from Sturgeon Bay, Door county, Wis., into the towns of Sevastopol, Egg Harbor and Jacksonport. The construction of this line was opposed by the Door County Telephone Company and by Matt Peffer, each of whom owns and operates rural telephone lines in the same towns.

The hearing was held upon the matter at Sturgeon Bay on February 24, 1914, at which the applicant was represented by *H. M. Ferguson* and the objectors by *W. E. Wagener*.

The proposed new line is plainly intended as a substitute for the existing lines in the towns directly north of Sturgeon Bay. The route laid out by the applicant company involves the paralleling on the same highways of the two existing lines, for practically the entire length of the proposed new line. A few branches of the line would enter new territory for a mile or two

but by far the greater portion of the new line would cover territory already served. At the time of the hearing, about thirty subscribers had been obtained for the line, and it was stated that about two-thirds of these were already subscribers on one or the other of the existing lines. The new company, like the two already in existence, would expect to have its switching done by the Wisconsin Telephone Company in the city of Sturgeon Bay, and have no central office of its own.

Of the two lines already existing in the northern part of Door county, that owned by the Door County Telephone Company is the more extensive. Door county consists of a long peninsula jutting out into Lake Michigan and north of Sturgeon Bay the peninsula is generally not more than seven or eight miles across. The Door County Telephone Company has six circuits, all grounded. Two of these run from Sturgeon Bay to the very end of the peninsula on each side, forming a complete circuit around the northern end of the county. The other four lines are shorter, and cover most of the intervening territory. The proposed line of the applicant would extend for some distance along each side of the peninsula and would cover considerable territory in the interior. The new company's lines on the two sides of the peninsula would parallel for their entire distance the lines of the Door County Telephone Company, and the lines in the interior of the county would also parallel for the most part the various interior lines of the Door County Telephone Company.

The lines owned by Matt Peffer extend from Sturgeon Bay to the northeast for perhaps sixteen miles with a few side branches. In general, they serve the interior of the peninsula rather than either of its shore lines, and they do not, except for short stretches, parallel the Door County Telephone Company's lines on the same highway. The proposed new line would, however, parallel the greater part of the Peffer line.

The organization of the new company and the proposed construction of a competing line appear from the evidence to be the result of a state of great dissatisfaction with the service of both the existing utilities. The statements of various subscribers and former subscribers of the two companies describing the reasons for this dissatisfaction cover many pages of testimony. The lines of both the existing utilities are grounded and the trouble due to cross-talk and buzzing of the lines was stated to be par-

ticularly acute. There are a number of rural telephone lines running into Sturgeon Bay from the south, all centering in the Wisconsin Telephone Company's switchboard, and the evidence shows that cross-talk from these southerly lines often makes trouble with those attempting to use the northern lines. Frequent crossing of wires, owing to their slack condition, was also mentioned. There was evidence to the effect that persons who had asked for the installation of telephones had been required to wait many months for service. There was also evidence that the lines would at times be out of use entirely for several days. In fact, at the time of the hearing the Matt Peffer line had been out of service for three days. Mr. Peffer himself testified as to one of his lines, "I gave up trying to give that line good service; I could not do it; I tried my best and I could not give them service."

The two objecting utilities introduced evidence tending to show the care with which they attended to trouble on their lines. The Door County Telephone Company has two trouble men, one residing at Sturgeon Bay, and one in the northern part of the county, and they testified that it was their practice to attend to trouble as soon as possible after it was reported to them, going out usually on the same day, or the following day. On the Peffer line, trouble is attended to by Mr. Peffer himself or by an employe, depending on the location of the trouble. The local manager of the Wisconsin Telephone Company at Sturgeon Bay testified that whenever a line or an instrument was found by an operator to be out of order the fact was immediately reported to the proper person for correction of the trouble. Both Mr. Peffer and the officers of the Door County Telephone Company testified that the lines of their respective utilities were about to be changed from grounded to metallic service, but the commencement of the work in this direction was being delayed pending the result of this case.

The evidence seemed quite clearly to show a condition of unsatisfactory service on the part of both the companies at various times. How far the inadequacy of service is due to carelessness or neglect on the part of the companies, how far it may be ascribed to inattention by subscribers or even tampering with the lines, and how far it is the result of natural and unpreventable causes, is not clear. The entire situation with respect to the service of the two companies will bear investigation. If, as one

witness suggested, the poles of the Door County Telephone Company are too small or are partly rotted away, or if the wires are too slack or connections are improperly made, these are physical difficulties that can be determined and remedied. If the situation is such as to require the metallicizing of the lines or other precaution to protect them from cross-talk and other noises, there is no reason why these matters cannot also be attended to as soon as the exact situation has been determined and the requisite engineering knowledge has been applied to it.

All of these matters, however, do not seem to present a justification for the establishment of a new telephone system paralleling and competing with the existing lines and inevitably depriving them of a large amount of their business. The Public Utilities Law provides an adequate way of obtaining good service just as it provides a remedy for excessive rates. The existing companies have not evidenced any intention to abandon the business in which they are engaged or show by their attitude that they are indifferent to the quality of service they give, or are willing to let the public suffer indefinitely from poor service. These companies have shown a disposition to improve the quality of service and to take care of trouble when it arises. If this is not done promptly enough or with sufficient skill to make the attempted improvement effective, it is the duty of the companies to mend their ways and the duty of this Commission to see that the service is actually made adequate.

The testimony presented at the hearing offers a sufficient basis for a general investigation on motion of the Commission of the service of the Door County Telephone Company and the Matt Peffer Telephone Line, and a notice of such investigation is being issued and sent to the parties with this decision. If it should develop that for any reason adequate service can not be had from the existing utilities, there might then be occasion for the entrance of a new company into the field.

It is the opinion of the Commission that in a case like the present, where the evidence tends to show inadequacy of service but no steps have been taken to secure the exercise of the Commission's powers for the correction of the inadequacy, the entrance of a new company into territory already occupied and fully covered by existing companies is ordinarily not required by public convenience and necessity. The impairment of existing investments must have better justification than the exist-

ence of defects in service, which, for all that appears in the evidence, may be easily capable of correction when the proper steps have been taken.

Mention was made in the application of the Savastopol Farmers Telephone Company of the excessiveness of the rates of the existing companies. Little evidence on this point was produced at the hearing. It appears that the rural rate of the Door County Telephone Company is $18 and that of the Matt Peffer line is $15 for residences and $18 for business places. There is nothing in the evidence to indicate whether these rates are excessive or not, but if they were excessive the normal remedy would be a complaint to the Commission rather than the organization of a competing company.

For the reasons given, the Commission is unable to find that public convenience and necessity require the construction of the lines proposed by the Sevastopol Farmers Telephone Company, and therefore no certificate will be issued.

E. D. McGOWAN
vs.
ROCK COUNTY TELEPHONE COMPANY,
WISCONSIN TELEPHONE COMPANY.

Decided June 3, 1914.

The petitioner alleges that public convenience and necessity require physical connection between the local systems and toll lines of the Rock County Tel. Co. and those of the Wis. Tel. Co. in the city of Janesville and asks that the Commission investigate the matter as provided by ch. 546, laws of 1911. Both the respondent companies furnish local and long distance service. The Wis. Tel. Co. has a decided advantage as to toll business, while the Rock County Tel. Co. has a slight advantage as to local business. Competition between the two companies appears to have been very keen, as well as unprofitable to both companies. The local rates of the two companies are practically the same. Only a small majority of the business establishments and a very small proportion of the residences connected with either of the two exchanges have the phones of both companies and the Wis. Tel. Co. refuses to transmit over the lines of the Rock County Tel. Co. messages coming over its own lines for parties who are subscribers of the Rock County Tel. Co. but not of the Wis. Tel. Co. The only connection between the two companies is that afforded by a Rock County phone which the Wis. Tel. Co. has installed in its office and which it uses to notify parties having Rock County phones, but not the phones of the Wis. Tel. Co., of calls which come for them over the Wis. Tel. Co's lines. Parties thus notified are compelled to go to a phone of the Wis. Tel. Co. in order to communicate with the party calling. Intercommunication between the rural subscribers is even more difficult than between subscribers in the city and the rural subscribers of the Rock County Tel. Co. are practically deprived altogether of the long distance service of the Wis. Tel. Co.

The contention of the Wis. Tel. Co. that ch. 546, laws of 1911, is invalid for the reason that it violates certain guarantees of property rights found in the constitution of the United States and that the Commission is therefore without authority in the premises, was disposed of in *Winter v. La Crosse Tel. Co. et al.* 1913, 11 W. R. C. R. 748, and the principles there stated are here followed.

The contention of the Wis. Tel. Co. that it would suffer irreparable loss under the physical connection desired by the petitioner through the effect on the business of its local exchange is not valid. Subscribers of either company who are in a position to also become subscribers of the other and who desire to be connected with the other company's exchange, for the purpose of either local or toll service, can be required to pay the company of

which they are not subscribers a small toll for the privilege, so adjusted as to substantially preserve the *status quo* of the two companies so far as any effect of the charge itself is concerned. No charge in excess of the cost of service and reasonable compensation should be made, however, to those rural subscribers and patrons of connecting companies who have and can have the service of only one company available to them under the terms of the Anti-Duplication Law.

Held: Public convenience and necessity require a physical connection between the exchanges of the respondent companies for the interchange of both local and long distance service. Such connection will not result in irreparable injury to the owners or other users of the facilities of the two companies nor in substantial detriment to the service to be rendered by them.

It is ordered: (1) That the respondents make such physical connection or connections between their toll lines and between their local systems in the city of Janesville as is required for the furnishing of toll line and local service, including rural service, to the subscribers of each company, at the stations installed in their residences and places of business over the toll lines and local lines, including rural lines of the other company; and (2) that the expense of making such physical connection or connections be apportioned equally between the respondents. The point and extent of the connection ordered are left to the respondents to agree upon. Thirty days is deemed a reasonable time within which to comply with the order.

The petitioner is a resident of the city of Janesville, Rock county, Wis. He alleges that in the city of Janesville the Rock County Telephone Company and the Wisconsin Telephone Company, also known as the Bell Telephone Company, each maintains an office and a telephone system, with the usual equipment for the transmission of local and long distance messages, and for all other telephone service and purposes; that each maintains telephone toll lines extending from the city of Janesville to many other cities and other places; that these companies have not made any arrangement for physical connection as provided by law either between their local systems or toll lines or both; that they have refused and now refuse to make such physical connection as is provided by ch. 546 of the laws of 1911; that public convenience and necessity require such physical connection; and that no irreparable injury will result therefrom to the owners or other users of the equipment of these companies, nor in any substantial detriment to the service to be rendered by them. The petitioner further alleges that he frequently has occasion to use one or the other of the toll lines operated by the two companies; that he is prevented from so doing by reason of their neglect and failure to make such connection as is provided by law as aforesaid, and that the petitioner frequently has had calls over the toll lines of the two companies, and espe-

cially over those of the Wisconsin Telephone Company, but that the operators of the latter company refused to give or transmit to him such messages over the local telephone lines of the Rock County Telephone Company. Wherefore the petitioner asks that an investigation be made of the matter, as provided by ch. 546 of the laws of 1911, and that, if after investigation the Commission shall ascertain that public convenience and necessity require such physical connection, that no irreparable injury will result therefrom to the owners or other users of the equipment or facilities of the public utilities involved, nor in any substantial detriment to the service to be rendered by such owners or such public utilities or other users of such equipment or facilities, it order that such use be permitted and prescribe reasonable conditions and compensation for such joint use, and order that such physical connection be made and determine how and within what time such connection shall be made, and by whom the expense thereof shall be borne, and for such other or further order with reference to the matter as by law should be made.

The respondent Wisconsin Telephone Company, answering the petition, admits the formal allegations thereof, but objects and protests against the making of any investigation or order therein by the Commission; alleges that the petitioner is without authority, right, or capacity to file or present the foregoing petition; that ch. 546 of the laws of 1911, pursuant to which the petition purports to be filed, is in violation of and in conflict with sec. 1 of article IV, sec. 2 of article VII, and secs. 5, 13 and 22 of article I of the constitution of the state of Wisconsin, and with sec. 10 of article I, of the constitution of the United States, and of sec. 1 of the fourteenth amendment to the said constitution; than any order entered in the proceedings herein directing any physical connection, or determining any matter in relation thereto will deny the Wisconsin Telephone Company the equal protection of the laws, the right of trial by jury, will deprive it of its property without due process of law or the payment of just compensation therefor, and will be subversive of justice, moderation, virtue, and fundamental principle; that, since the Wisconsin Telephone Company's toll lines are operated in conjunction with toll lines engaged in interstate commerce, namely, those owned or controlled by the American Telephone & Telegraph Company, any

order requiring physical connection of respondent company's toll lines with those of the Rock County Telephone Company will affect and interfere with interstate commerce and thus be a regulation of interstate commerce, in conflict with and in violation of subsec. 3 of sec. 8 of article I of the constitution of the United States; and that the Commission is without jurisdiction, right or authority in the matters herein.

Without waiving its aforesaid objections, the respondent Wisconsin Telephone Company further alleges that the refusal of its operators to transmit to the petitioner, over the local telephone lines of the Rock County Telephone Company, messages coming for him over the toll lines of the respondent company was and is proper and in accordance with law; denies that if the petitioner has occasion to use toll lines of the respondent company at the city of Janesville he is unable to do so conveniently by reason of the lack of physical connection between the telephone systems of the respondent companies; alleges that its toll lines and connections reach and give adequate service to all of the various places served by the Rock County Telephone Company and its toll lines; that the refusal of the respondent companies to make such physical connection as is sought by the petitioner is proper and in accordance with law; that public convenience or necessity does not require physical connection between the respondent companies at Janesville or elsewhere; that any such physical connection cannot be readily made; that it will result in irreparable injury to the owners and other users of the facilities of the respondent companies; that it will result in substantial detriment to the service to be furnished by both or either; that it will not extend greatly or otherwise the use of the telephone systems of each or either; that it will not be of great or other advantage to the community, or to the subscribers of both or either telephone company; that any such physical connection as is sought by the petitioner will result in great advantage to the Rock County Telephone Company at serious costs and detriment to the Wisconsin Telephone Company. Wherefore, the respondent Wisconsin Telephone Company prays that the petition be dismissed.

Two hearings were held. The first took place July 2, 1913, at the capitol in the city of Madison; the second, pursuant to adjournment, November 5, 1913, at the city hall, Janesville. *E. D. McGowan* appeared in his own behalf; *Edwin S. Mack* and

J. F. Krizek appeared for the Wisconsin Telephone Company, and *R. Valentine* for the Rock County Telephone Company.

The objections to the jurisdiction of the Commission based upon the alleged invalidity of the statute involved in these proceedings were also set up in the answer in the case of *Winter v. La Crosse Tel. Co. et al.* 1913, 11 W. R. C. R. 748. In the *Winter* case, by stipulation of the parties, physical connection of the two exchanges for interchange of strictly local service between the respondent company's subscribers within the city was eliminated. In the instant case the fullest connection authorized by the statute in question is sought. The principles involved in the *Winter* case and in this case seem closely analogous. As the Commission fully expressed its views in the former case as to the proper interpretation of the statute and the fundamental principles in regard to its administration, further comment upon the legal question raised will not here be made, except insofar as it may be necessary in certain phases of the case presented to advert thereto.

Janesville is given a population of 13,894 by the 1910 census. It is situated on the main line of the Chicago & North Western Railway Company and also on a line of the Chicago, Milwaukee & St. Paul Railway Company. It appears that there are two telephone companies serving the public in Janesville, namely, the Rock County Telephone Company, hereinafter referred to as the Rock Company, and the Wisconsin Telephone Company hereinafter referred to as the Bell Company. Both of these companies furnished local and long distance service. The Rock Company provides long distance service chiefly through its connection with other companies and particularly through its connection with the Badger Telegraph & Telephone Company. The latter operates an independent toll line. However, its bonds and nearly all of its stock are owned by the Rock Company. When the bonds become due, which will be about two years hence, this company will be merged with the Rock Company. The latter company has at present one toll line which extends between Janesville and Footville for a distance of nine miles.

The toll lines of the Bell Company located entirely within the state are:

Janesville–Lake Geneva,
Janesville–Delavan,
Janesville–Whitewater,

Janesville–Milwaukee,
Janesville–Watertown,
Janesville-Ft. Atkinson,
Janesville-Edgerton,
Janesville–Stoughton,
Janesville–Madison,
Janesville–Evansville,
Janesville–Orfordsville,
Janesville–Juda,
Janesville–Monroe,
Janesville–Darlington,
Janesville–Shullsburg,
Janesville–Beloit.

The Bell Company also has a line to Rockford, Ill., and connects with the line of the American Telephone & Telegraph Company.

The Rock Company connects about as follows:

Janesville to Milton, Milton Jct. and Edgerton.
Janesville to Clinton, Darien and Elkhorn.
Janesville to Sharon and Delavan, and points in Illinois.
Through connections with independent companies.

The Rock Company also renders toll service as follows:

Janesville to Beloit and beyond to Illinois points.
Janesville to Brodhead, Monroe, Monticello, Argyle, Belleville and Albany.
Janesville to Evansville and Brooklyn.

From an inspection of the list of long distance stations contained in the Rock Company's directory for 1913 it appears that the Rock Company offered connections to 85 exchanges and stations within the state. From the reports filed with the Commission by the Bell Company, it would seem that that company reaches 47 of these exchanges and stations.

The Bell Company during the year ending December 31, 1912, reached 297 points within the state of Wisconsin from its Janesville exchange. Of these points 64 were reached by the lines of the Badger Telegraph & Telephone Company which, as has been stated, is associated with the Rock Company. The receipts of the Bell Company for such duplicate points, for originating toll business for the year mentioned were $4,704.55, and the receipts for the 233 non-duplicate points were $5,843.45, making a total of $10,548.00 for that year. The total receipts of the Rock Company were $2,618.05 during the year ending May 31, 1912, and $2,379.05 during the year ending May 31, 1913.

The above figures are not strictly comparable since they are not for the same identical period. However, the comparison is close enough to justify the conclusion that, as to the toll business, the advantage is decidedly with the Bell Company and doubtless an important inducement to subscribe for the Bell phone is the long distance toll service. Upon the hearing it appeared that the subscribers of the Rock Company in and near Janesville were approximately 2,400, while those of the Bell Company were 1,774. From the reports filed with the Commission by the two companies the following table has been compiled:

Year ending	Installations.					
	Business.		Residence.		Total.	
	Rock Co.	Bell.	Rock Co.	Bell.	Rock Co.	Bell.
Dec. 31, 1907	.....	.....	.....	.....	1,505	1,149
June 30, 1909	368	335	1,340	820	1,708	1,155
June 30, 1910	440	366	1,395	835	1,835	1,201
June 30, 1911	425	383	1,526	868	1,951	1,251
June 30, 1912	435	427	1,557	1,137	1,992	1,564
June 30, 1913	431	455	1,571	1,329	2,002	1,784

This includes a small number of extensions.

From the foregoing it would seem that the advantage locally of the Rock Company as far as subscribers are concerned is not very great and that it has become somewhat less in the last five or six years. On June 30, 1909, there was a total of 703 business installations by both companies and 2,160 residence installations. Of the former the Bell Company had 48 per cent and of the latter 38 per cent. On June 30, 1913, the Bell Company had 51 per cent of the total business installations and 46 of the total residence installations. In this connection it must be borne in mind that the Bell Company entered the field in Janesville about twenty years earlier than the Rock Company. The directors and officers of the latter company are all residents of Janesville. Against the superior advantages the Bell Company presumably offers for long distance service, the Rock Company opposes, among other things, the prestige of a local concern.

From the annual reports filed with the Commission by the Bell Company it appears that it has incurred a loss on its Janesville exchange during the last few years. From all of these facts

it would seem clear that the competition between the two companies has been very keen, as well as unprofitable to both companies.

On January 1, 1913, the Bell Company had 315 business telephones and 113 residence telephones installed in places where the Rock Company's phones were also installed. At that time the Bell Company had 75 business and 1,122 residence phones installed where the Rock Company's phones were not in use, and the Rock Company had 182 business and 1,305 residence phones installed where no Bell Company's phones were in use. According to the statistics at hand it appears that 572 subscribers had business phones on that date, and that of this number 315, or fifty-five per cent had both phones. On the other hand there were 2,540 subscribers having residence phones of which only 113, or 4 per cent had both phones.

In the transaction of its business the Bell Company refuses to transmit over the lines of the Rock Company messages coming over its own lines for parties who are subscribers of the Rock Company but not of the Bell Company. The only connection between the two companies is that afforded by a Rock Company phone which the Bell Company has installed in its office. When a call comes over the Bell lines for a person having a Rock Company's phone but not a Bell phone, the Bell company notifies the party over the Rock Company's phone in its office of the call. It then becomes necessary for the party called to go to a Bell phone in order to communicate with the party calling. The petitioner who has the phones of both companies in his office, but only the Rock Company's phone in his residence, testified to a number of occasions when he had been seriously inconvenienced by his inability to communicate at his residence with persons calling him over the Bell Company's lines.

As has been seen, 45 per cent of the business establishments and 96 per cent of the residences had only the telephone of one of the companies on January 1, 1913. It has also been noted that the companies are not on a great disparity as regards either business or residence installations so far as mere numbers are concerned. Much of the testimony at the first hearing and practically all at the second dealt with the inconvenience and annoyance due to the lack of physical connection, and the companies' refusal to transmit messages originating on their lines or connections over those of the other company. A number of

witnesses testified to this inconvenience and a number of others were ready to testify, but as such testimony would be merely cumulative it was deemed unnecessary to extend the record with a mass of cumulative evidence. Among the witnesses who testitified were two dealers in leaf tobacco, a banker, a manufacturer of iron working machinery and one engaged in the marble and granite monument business; also a subscriber to one of the rural lines of the Rock Company who is a heavy buyer and shipper of live stock, and another who is connected with the farmers' line and engaged in the implement, coal and grain business. All the witnesses testifying had occasion to make more or less use of the long distance service afforded by the Bell Company. The substance of the testimony was what might perhaps be anticipated where two telephone systems are engaged in serving the same general community and only a small majority of the business establishments and a very small proportion of the residences have the phones of both companies installed and where rural subscribers and those on connecting lines of one company are often entirely cut off from the service of the other company.

In the *Winter* case, *supra,* it was stated, in substance, that to justify the public obligation usually imposed by "public convenience and necessity" there must be present some imperative public exigency. It is inevitable in such a situation as that at Janesville that the aggregate loss of time, inconvenience, and annoyance through the absence of such physical connection as is here requested must be great, and the conclusion is equally inevitable that a public exigency demands physical connection. And where, as here, the local subscribers are rather evenly divided between the two companies, it is evident that physical connection between the local systems of the two companies, as well as between the local exchanges and the toll systems, is called for. That such connection would greatly increase the value of the service to the subscribers of either company is self-evident. That the demand for these connections, both local and toll, has found expression in numerous instances, was brought out in the testimony.

Were there no other elements to this side of the question, the Commission would be of the opinion that physical connection is demanded by public convenience and necessity. However, there is another important factor to be considered, and that is the

rural subscribers of the two companies, between whom any intercommunication must be much more of a problem than between subscribers in the city. From an inspection of the Rock Company's directory for 1913, and supplement as of June 1, 1913, and the Bell Company's directory as of May, 1913, it appears that the former company then had about 342 rural subscribers, the latter about 157. Furthermore, the rural subscribers of the Rock County are practically deprived entirely of the Bell long distance service.

In the present case it has been noted that the two companies are almost on a parity. The Bell Company has a somewhat larger proportion of the business installations, the Rock Company of the residence. In each case the disparity is comparatively small. The rates for the two companies are the same, except that the Bell Company has no four party service for residences and the Rock Company no corresponding two party service. The Bell Company charges the same for its two party service as the Rock Company for its four party service.

The Bell Company contends that under physical connection it would suffer irreparable loss through the effect on its local exchange. If the physical connection were ordered the subscriber of one company who desired to be connected with the other company's exchange, for the purpose of either local or toll service, would be required to pay the company of which he was not a subscriber, a small toll for the privilege. No reason is seen why such a toll or charge could not be so adjusted as to substantially preserve the *status quo* of the two companies as far as any effect of the charge itself would be concerned. Such a charge, when thus adjusted, would not make it an economy for those now having sufficient business to require the phones of both companies to dispense with either and under the circumstances of this case it would perhaps not be lawful to make a charge having that effect, since that would be to take private property without just compensation.

The toll or charge for physical connection would of course include reasonable compensation for additional costs incurred on account of the physical connection and the connecting companies' regular toll charge, if toll service were desired, or whatever should be worked out as a reasonable charge for the local service, if that were wanted. On account, however, of the terms of the Anti-Duplication Law, ch. 610 of the laws of 1913 (amend-

ing sec. 1797*m*—74), which aims to prevent uneconomic competition and duplication, it would seem that no charge in excess of the cost of the service and reasonable compensation should be made to those rural subscribers and patrons of connecting companies who have and could have only the service of one company or the other available to them under the foregoing law.

Physical connection, with properly adjusted charges, as outlined above, should increase, rather than decrease, the earnings of both companies, since it would permit each company to retain all that it already has, and also have the benefit of all that potential, casual business, which would not warrant the installation of the phone of each company by the single individual or establishment, but the sum total of which, while more or less problematical, would necessarily, under the circumstances of this case, be at least considerable.

In addition to business of that nature, the rural subscribers of each company and the subscribers of connecting companies must be considered. The lack of physical connection between the two companies must be a more serious hindrance for many of these than for the subscribers in the city, and it is only reasonable to suppose that, were this connection made, there would follow from this source an increase of business for each company.

The testimony of a number of witnesses, of whom some were on rural lines and others local subscribers, was to the effect that with the physical connection they would do substantially more telephoning. While the number of these was necessarily small compared with the total possible numbers involved, the weight of their testimony must not be unduly underestimated on that account, since in no respect was it evident that their situation, as far as the need for this service was concerned, was exceptional. It also seems reasonable to suppose that with the physical connection there would be an increase in the incoming calls, since with the exception of urgent business there must be some deterrent effect on those desiring to call people who they know will have to be first reached by messenger service, or in some other way at more or less inconvenience to them and the party called.

Another phase of a situation like the present one, when there is no physical connection, was noted in the *Winter* case, *supra*, and that is the additional expense of the delay in handling a long distance call to a person on the other company's lines who must be reached by messenger or otherwise, before the call can

be given. This additional expense would, of course, be eliminated under physical connection.

An implied rather than direct objection of the Wisconsin Company, was that the Badger Telegraph and Telephone Company, through which concern the Rock Company offers most of its long distance service, is a separate corporation and that therefore an order directed to the Rock Company, requiring connection of toll lines, would not affect the former. This objection does not seem fatal. The secretary and general manager of the Rock Company stated, as has been noted, that his company owns the bonds and nearly all the stock of the Badger Telegraph and Telephone Company and that in the comparatively near future the two companies were to be merged. They are thus associated companies. He also stated that the Badger Telegraph and Telephone Company has always been perfectly willing to make the connection herein desired. Under such circumstances, it hardly seems probable that the expected full effect of the order would be thus frustrated. The order would require physical connection between the two companies for both local and long distance service and the Rock Company would be expected to make the long distance service thus controlled, as well as owned by it, available. However, should the Badger Telegraph and Telephone Company decline to permit the connection, it could be made a party in a proceeding before the Commission to compel the connection.

At the time of the hearing the exchanges of the two companies were two blocks apart. The Rock Company's new central office is some distance from its old one which it occupied at the time of the hearing. This fact, however, the engineer of the Commission, who submitted a report bearing on the physical aspects of the case, says has no effect on the practicability of the connection beyond the increase in cost. In fact the Bell Company's counsel conceded the possibility of the connection. He said, "We would not controvert the fact that it is physically possible to connect the two exchanges."

It appears that the Bell Company uses Western Electric transmitters and receivers and that the Rock Company uses the Kellogg & Sterling Electric Company's switchboards. In the report of the engineer the conclusion was reached that there was nothing in the equipment and the nature of the circuits of either company which would result in detriment to either company by

reason of the connection and that in case any trouble should develop it could be readily remedied.

Since it appears that public convenience and necessity require a physical connection for interchange of both local and long distance service between the exchanges of the Wisconsin Telephone Company and the Rock County Telephone Company in the city of Janesville, that such connection will not result in irreparable injury to the owners or other users of the facilities of the said companies, and that it will not result in substantial detriment to the service to be rendered by them, it follows that an order must be entered accordingly.

The point and extent of the connection will be left to the companies, and if no agreement between them can be reached as to the place, manner, or method of making the connection a further hearing will be granted the parties by the Commission and a supplemental order made, determining the details in question. As the cost of making the connections will not be great and the benefits derived will be mutual, each company will be required to pay one-half of the cost.

NOW, THEREFORE, IT IS ORDERED, That the Wisconsin Telephone Company and the Rock County Telephone Company make such physical connection or connections between their toll lines and between their local systems in the city of Janesville as is required for the furnishing of toll line and local service, including rural service, to the subscribers of each company, at the stations installed in their residences and places of business over the toll lines and local lines including rural lines of the other company. It is further ordered that the expense of making such physical connection or connections and the subsequent maintenance thereof be and the same is hereby apportioned equally between said companies.

Thirty days is deemed a reasonable time within which the companies shall comply with this order.

JOHN SCHROEDER LUMBER COMPANY
vs.
MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY.

Decided June 4, 1914.

The petitioner alleges that it was overcharged for the transportation of certain carload shipments of logs to Ashland from various points in Wisconsin through the failure of the respondent's tariff in force when the shipments moved to provide for an allowance for car stakes. The omission of a provision making such an allowance was evidently due to an oversight and the mistake has been rectified in a subsequent tariff. The respondent is willing to make refund.

Held: The charge complained of was unusual and exorbitant. Refund of the amount claimed is ordered.

The petitioner is a corporation engaged in the manufacture of lumber, lath and shingles, and has mills located at Ashland, Wis. It alleges that on and between January 12 and April 15, 1914, inclusive, it shipped from Minersville, Peterson's Spur, High Bridge, North York, and other stations in the vicinity of Marengo, Wis., to Ashland, Wis., 272 cars of logs and from other points in Wisconsin to Ashland 25 cars of logs; that the tariff in effect at the time such logs moved, G. F. D. 17183 and 17895, did not provide for an allowance for car stakes, although the tariffs of other railway companies in this state made such provision; and that the respondent's tariff G. F. D. 16800 applying on lumber and other articles taking the same rate contained a provision allowing for car stakes; that the respondent issued its tariff G. F. D. 18270, effective May 8, 1914, which made a provision allowing 500 lb. for stakes; that the petitioner was therefore overcharged to the extent of 1.4 cts. per cwt. on 272 cars at 500 lb. each, 1.6 cts. per cwt. on 19 cars at 500 lb. each, 1.7 cts. on 2 cars at 500 lb. each, and 1.8 cts. on 4 cars at 500 lb. each, which overcharge amounted in the total to $21.09.

The respondent railway company, answering the petition, admits the allegations thereof and expresses its willingness to make the reparation claimed upon being duly authorized to do so,

The omission of a provision allowing for car stakes in the tariffs upon which the shipment here involved moved was evidently due to an oversight. Upon being advised of the fact the carrier immediately published a tariff rectifying the mistake.

We therefore find and determine that the charge exacted of the petitioner on the aforesaid shipments for car stakes is unusual and exorbitant, and that no charge should have been made therefor. An examination of the receipted freight bills submitted to the Commission shows that the excess charge amounts to $21.09 as claimed. Reparation will be ordered for this amount.

NOW, THEREFORE, IT IS ORDERED, That the Minneapolis, St. Paul & Sault Ste. Marie Railway Company be and the same is hereby authorized and directed to refund to the petitioner, the John Schroeder Lumber Company, the sum of $21.09.

H. W. SELLE & COMPANY
vs.
MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY.

Decided June 4, 1914.

The petitioner alleges that charges assessed by the respondent at the rate of 10 cts. per cwt. for the transportation of a shipment of excelsior from Rice Lake to Superior were excessive to the extent that they exceed charges based on the rate of 8½ cts. per cwt., put into effect by the respondent since the shipment moved. The respondent is willing to make refund.

Held: The charges complained of were unusual. The refund claimed is ordered.

The petitioner is a corporation engaged in the manufacture of excelsior at Rice Lake, Wis. It alleges that on December 1, 1913, it shipped from Rice Lake to Superior, Wis., one car containing 27,600 lb. of excelsior upon which the respondent assessed charges at the rate of 10 cts. per cwt., amounting to $27.60; that the charges assessed on said shipment were excessive to the extent that they exceeded charges on the basis of a rate of 8½ cts. per cwt., which rate was established by the respondent's supplement number 10 to G. F. D. 16,000, effective May 1, 1914; and that the charges on the basis of a rate of 8½ cts. per cwt. would amount to $4.14 less than the amount actually paid by the petitioner. Wherefore, the petitioner prays that the respondent be authorized to refund to it the said sum of $4.14.

The respondent railway company, answering the petition, admits the allegations thereof and expresses its willingness to satisfy the claim, if authorized so to do.

The rate of 8½ cts. per cwt. was in effect on the Chicago, St. Paul, Minneapolis & Omaha Railway at the time the shipments moved. From a consideration of all the elements involved in determining the reasonableness of the rate thus in effect on a line of railway competing with the respondent for the traffic in question, it appears that the rate of 8½ cts. furnishes adequate compensation for the services rendered and is sufficiently remunera-

tive to the respondent railway company to warrant its adoption. Of course, the respondent could not hope to participate in the traffic on a different rate and consequently reduced its rate to the corresponding rate on a line of its competitor. The allegation of the petition as to the amount of the overcharge is correct.

We therefore find and determine that the rate of 10 cts. per cwt. exacted of the petitioner by the respondent on the aforesaid shipment of excelsior is unusual and that the reasonable rate for such shipment is 8½ cts. per cwt.

NOW, THEREFORE, IT IS ORDERED, That the Minneapolis, St. Paul & Sault Ste. Marie Railway Company be and the same is hereby authorized and directed to refund to the petitioner, H. W. Selle & Company, the sum of $4.14.

TOWN OF RICHMOND
vs.
WISCONSIN AND NORTHERN RAILWAY COMPANY.

Submitted March 16, 1914. Decided June 6, 1914.

The petitioner alleges that a crossing on the respondent's line one mile east of Thornton, Shawano county, is dangerous.

Held: The crossing requires further protection. The respondent is ordered to install and maintain an electric bell supplemented by a visual signal for night indication, plans to be submitted for approval. Ninety days is considered a sufficient time within which to comply with this order.

The petitioner, a regularly organized town in Shawano county, alleges in substance that a highway crossing one mile east of Thornton on the line of the Wisconsin & Northern Railway Company is dangerous to public travel on account of the surrounding physical conditions. The Commission is therefore asked to require the respondent to install some protective device for the protection of travelers.

The respondent, in its answer, denies that the crossing is unusually dangerous and asks that the petition be dismissed

A hearing was held at Shawano on March 16, 1914. *Chas. Brockman* appeared for the petitioner and *C. H. Hartley* for the respondent.

The testimony shows that at the crossing in question the respondent's single track line runs northwest and southeast and the highway east and west. The railway lies in a cut which is from seven to nine feet deep. The highway also lies in a cut on both sides of the track, descending to the grade crossing. The banks of the cuts and the brush growing upon them and upon the adjacent property form the chief obstructions to the view of trains. After the complaint was filed some of the obstructing brush was removed, but witnesses stated that even with this improvement the view is poor, especially from the east highway approach looking northwest, and from the west highway approach looking southeast, and that travelers must be almost on the track before they can see approaching trains.

On April 21, 1914, a member of the Commission's engineering staff investigated the situation at the crossing. Under his direction the actual points on the track at which a train can be seen from various points in the highway were observed. One man walked along the track holding a staff upon which a handkerchief was displayed at approximately the height of the bottom of ventilating transoms in the ordinary passenger car roof. The range of view of the handkerchief was observed from the seat of a buggy at various points along the highway. The limits of vision ascertained in this manner are presented in the following table. It should be noted that the views afforded for pedestrians would be more restricted than those indicated.

Distance of point of observation in highway from track.	View northwest.	View southeast.
West 50 feet	100 feet	100 feet
" 100 "	180 "	240 "
" 175 "	¼ mile	¼ mile
" 250 "	¼ "	350 feet
East 50 "	110 feet	130 "
" 100 "	140 "	¼ mile
" 175 "	115 "	¼ "
" 250 "	75 "	¼ "

The highway is a main traveled road leading to Shawano from the country northwest of that city. During the summer the automobile traffic is considerable, since the road is in better condition than others in the vicinity. The town chairman estimated the traffic at about sixty teams a day on the average. A count made for the company from 7:30 a. m. to 5:15 p. m. for six days in March resulted as follows:

Date.	Number of teams.	Number of pedestrians.
March 9, 1914	47	3
" 10, "	55	3
" 11, "	38	1
" 12, "	39	5
" 13, "	47	8
" 14, "	53	1

Two mixed trains in each direction each day are scheduled on this line between 7:15 a. m. and 4:25 p. m. daily, but these trains are frequently from two or three hours late. Several narrow escapes from accident were described at the hearing.

Our engineer recommends that an electric bell with a visual signal for night indication be installed.

In the light of the testimony and of the report of our engineer it is our judgment that the crossing under consideration is more than ordinarily dangerous, and that further protection is necessary. Under the existing conditions of traffic, the installations recommended by our engineer are, in our opinion, necessary to render this crossing reasonably safe.

IT IS THEREFORE ORDERED, That the respondent, the Wisconsin & Northern Railway Company, install and maintain at the highway crossing on its line one mile east of Thornton an automatic electric bell supplemented by a visual signal for night indication, plans to be submitted to the Commission for approval.

Ninety days is considered a sufficient time within which to comply with this order.

TOWN OF MENOMONEE
vs.
CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Decided June 6, 1914.

The petitioner alleges that two highway crossings on the respondent's line lying partially in the town of Menomonee, Waukesha county, are unsafe for public travel and that the grade of approach is too steep for teaming. The respondent made certain improvements in the grade of the approaches at the crossings subsequent to a conference between the interested parties looking toward an informal adjustment of the matters in dispute, but the petitioner objects to the grades of 7 and 7½ per cent left at the crossings. Both the highways involved were in use before the respondent's line was constructed and were practically level at the point where they now cross the railway line.

The construction of a grade crossing with approaches on a 7 or 7½ per cent grade in the place of a practically level highway, especially when a considerable further reduction of grade can be made without unreasonable expense, is not regarded as a substantial compliance with sec. 1836 of the statutes, which makes it the duty of a railway company to restore any highway crossed by its line "to its former state or to such condition as that its usefulness shall not be materially impaired".

The respondent's contention that the Commission has no jurisdiction to enforce the provisions of sec. 1836 of the statutes was discussed in *In re Crossing on C. & N. W. R. in Town of Gale*, 1914, 14 W. R. C. R. 445, and the opinion there given is here followed.

Held: 1. The crossings should be further protected by the addition of guard rails along the sides of the approaches.

2. The respondent should reduce the grade of approach at each of the crossings to a maximum of 4 per cent in order to fulfill the duty imposed by sec. 1836 of the statutes.

The respondent is ordered to provide properly surfaced highway approaches not exceeding 4 per cent in grade at each of the crossings with suitable guard rails on each side of the highway embankments. Sixty days is considered a sufficient time within which to comply with this order.

On May 24, 1912, the town of Menomonee in Waukesha county filed with the Commission a petition which alleges in substance that two highway crossings on the line of the Chicago & North Western Railway Company, lying partially in the town of Menomonee, are unsafe for public travel and that the grade of approach is too steep for teaming. The Commission is asked to take such action as it deems just in the premises.

No formal answer was filed by the respondent, inasmuch as a conference had been arranged between the interested parties, looking toward an informal adjustment of the matters in dispute. Subsequent to this conference certain improvements at the crossing were undertaken by the railway company. Later the town chairman complained to the Commission that the company had failed to fulfill the promises made by its representatives at this conference, and it was therefore deemed advisable to take testimony in the matter. Accordingly, hearings were held at Granville on January 7, 1914, and March 9, 1914, at which *C. G. Birkhauser* appeared for the petitioner and *C. A. Vilas* for the respondent.

The situation at each of the two crossings involved in this complaint is substantially the same. In each instance the highway crosses the lines of the Chicago & North Western Railway Company, and the Chicago, Milwaukee & St. Paul Railway—each of which is on a fill —which parallel each other at a distance of about one hundred feet. The crossing nearest Granville is formed by the intersection of the tracks and a north and south highway which is on the boundary between the towns of Menomonee and Granville and between the counties of Waukesha and Milwaukee. At the other crossing the highway runs east and west and is on the boundary between the towns of Menomonee and Germantown and between the counties of Waukesha and Washington. The town of Menomonee maintains both of the highways at these points.

After the conference referred to above, the company spent approximately $1,000 in grading the approaches at these crossings. The company's engineer stated that the existing grade is approximately 7 per cent at each crossing. The Commission's engineer reports that the approaches on the east and west highway are on a grade of 7 per cent, and on the north and south highway 7½ per cent. He states that the top width of the approaches is about twenty feet.

The town chairman and other witnesses testified that it was their understanding at the conference with the railway company that the grade was to be reduced to 4 per cent. The assistant superintendent who represented the respondent at the conference, however, denied that any such specific promise as to grade was made. Witnesses asserted that the existing grade is so steep that ordinary traffic cannot go over it with ease, and that no

grades as steep as these approaches exist in the town of Menomonee. The chairman of the town of Granville stated that some 7 per cent grades are to be found in his town, but they will be reduced in the near future. The respondent's engineer mentioned several instances where a 7 per cent grade of approach at a crossing exists. He testified that to reduce the grade of approach at these crossings to 4 per cent, as desired by the town, would require an additional expenditure of approximately $800.

Neither of the highways are main traveled roads, but each accommodates a considerable traffic. The east and west road runs from Brown Deer to Colgate and connects with a main traveled road leading to Milwaukee. The north and south road is used largely by a farming community to the north in reaching Granville, Menomonee Falls and Milwaukee. It is more heavily traveled than the east and west roads. Both highways were in use before the respondent's line was constructed, and at that time they were practically level at the points where they now cross the railway line. The track was laid on a fill, thus necessitating the construction of ascending approaches to the grade crossings.

The town chairman pointed out that no guard rails are provided along the sides of the raised approaches, thus endangering public travel. Our engineer in commenting upon the situation reports as follows: "Unless the top width of approach embankments to these crossings is brought uniformly to at least twenty-four feet, guard fences should be installed along both sides of the approaches for practically their entire length." In our judgment, with the existing width of the approaches at these crossings, guard rails are necessary for the proper protection of the public. Aside from the absence of these guard rails, it appears that the crossings are not unusually dangerous. The steepness of the approaches does not materially imperil travelers, but it does render the highways much less convenient, and therefore less useful to the public than they were before the railway was built. It is the respondent's duty under sec. 1836 of the statutes to restore any highway crossed by its line "to its former state or to such condition as that its usefulness shall not be materially impaired." We do not regard as a substantial compliance with the requirements of this statute the construction of a grade crossing with approaches on a 7 or 7½ per cent grade in the place of a practically level highway, especially when a considerable further reduction of grade can be made without unreason-

able expense. In our judgment, the company should reduce the grade of approach at each of the crossings under consideration to a maximum of 4 per cent, as desired by the town, in order to fulfill the duty imposed upon it tbe statute mentioned above.

Counsel for the respondent questioned the jurisdiction of the Commission to enforce the provisions of sec. 1836 of the statutes. Inasmuch as this question has been recently discussed in a very similar case, further reference to it here is unnecessary. *(In re Investigation, on Motion of the Commission, of a Highway Crossing about One Mile South of Galesville Depot on the Line of the Chicago and North Western Railway Company in the Town of Gale, Trempealeau County,* 1914, 14 W. R. C. R. 445.)

IT IS THEREFORE ORDERED, That the respondent, the Chicago & North Western Railway Company, provide at each of the two highway crossings about one and one-half miles north of Granville, formed by the intersection of its line with a north and south highway bounding the towns of Menomonee and Granville and an east and west highway bounding the towns of Menomonee and Germantown, properly surfaced highway approaches not to exceed 4 per cent in grade, with suitable guard rails on each side of the highway embankments.

Sixty days is considered a sufficient time within which to comply with this order.

W. A. VON BERG ET AL.
vs.
CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Submitted March 17, 1914. Decided June 6, 1914.

The petitioners allege that the depot maintained by the respondent at Mosinee, Marathon county, is unsanitary and inadequate and ask that the respondent be required to build a new depot. The respondent admits the allegation and states its willingness to make necessary improvements in the existing structure. Witnesses assert that the present location of the depot is such as to imperil passengers in that it is necessary to pass over a dangerous crossing in order to reach it and suggest that the new depot be located on the other side of the tracks. The respondent questions the authority of the Commission to order the relocation of the depot.

Held: 1. The Commission is empowered in a proper case to fix the point of location of a depot. *City of Rhinelander v. M. St. P. & S. S. M. R. Co.* 1912, 8 W. R. C. R. 719, 725.

2. The requirements of public safety and adequate service make it imperative that the new depot be located east of the tracks.

The respondent is ordered to erect a modern station building east of its tracks at Mosinee which shall be adequate for the freight and passenger traffic there, plans to be submitted for approval. Oct. 1, 1914, is considered a reasonable date at which the improvements ordered shall be completed and open for public use.

The matter of the construction of a suitable sidewalk between the bridge over the Wisconsin river and the depot is left to the town authorities and the respondent for informal adjustment.

The petition is signed by thirty-six residents of the village of Mosinee, who allege that the depot maintained by the Chicago, Milwaukee & St. Paul Railway Company at Mosinee is unsanitary and insufficient in size and that it does not properly provide for passengers. The Commission is therefore asked to require the respondent to build a new depot at Mosinee.

The respondent submits for its answer a letter from its general manager which states that the company will make such improvements and enlargements to the building in the spring as may be necessary to adequately take care of the business handled at this point.

A hearing was held at Mosinee on March 17, 1914, at which *W. A. Von Berg* and *E. Walters* appeared for the petitioners and *H. H. Ober* for the respondent.

At the hearing the representative of the respondent admitted that the existing building is unsanitary and inadequate, and stated that the company is willing to make necessary improvements. It is needless, therefore, to comment upon the testimony tending to show that the character of the building is inadequate.

Testimony was introduced to show that the location of the depot is such as to imperil passengers. The village of Mosinee is located west of the Wisconsin river, and the railway line parallels the river on the east side. The present depot is located between the main track and the river about 1,200 feet north of the bridge over which traffic from the village passes. To reach the depot from Mosinee a traveler is obliged to cross the main track at the east end of the bridge, go north along the highway for about 1,000 feet and turn west again over two tracks to the depot. Witnesses asserted that the crossing at the depot is very dangerous on account of the obstructions to the view and the frequency of the switching movements, and mentioned several narrow escapes from accident. They also stated that under the existing conditions passengers frequently walk along the tracks from the bridge to the depot. It was claimed that the choice of a location east of the track will serve to eliminate these dangerous features.

Our engineer has investigated the situation at Mosinee and suggests that the new depot be located east of the tracks either south of the present depot crossing, or north thereof. He points out that such a relocation will necessitate the removal of a portion of the team track. If the site south of the depot crossing is chosen, it will also be necessary to relocate the stockyards and readjust the tracks to a certain extent. He further suggests that a suitable sidewalk be constructed between the bridge and the station, so that pedestrians will be less likely to use the track for a highway. At the hearing the representative of the petitioners stated that the town authorities would be willing to meet the railway company half way in providing a sidewalk. That matter will therefore be left open for informal adjustment.

The Company takes the position that the existing location provides for the reasonable safety of passengers if they exercise proper care, and questions the authority of the Commission to require the relocation of the depot. This matter was passed upon in *City of Rhinelander v. M. St. P. & S. S. M. R. Co.* 1912, 8 W. R. C. R. 719, the following language being used at page 725:

"If such facilities are not reasonably adequate, because of the location or character of the building, the company may be required to provide a depot so located and constructed as to meet the reasonable requirements of the public. * * * The Commission is empowered in a proper case to fix the point of location of a depot or station."

In *Harms et al. v. M. St. P. & S. S. M. R. Co.* 1913, 12 W. R. C. R. 552, and *J. Laursen et al. v. M. St. P. & S. S. M. R. Co.* 1913, 11 W. R. C. R. 627, petitions asking for the relocation of stations were considered and the prayers denied, not because of any lack of jurisdiction, but because the conditions did not warrant such relocation.

In the present case, it is our judgment that the requirements of public safety and of adequate service make it imperative that the station be located east of the tracks. Our engineer expresses the opinion that waiting rooms of the size suggested by the respondent at the hearing will satisfactorily provide for passengers, but states that the size specified for the freight room would be insufficient to properly house the freight which he observed at the depot on May 7 and 8, 1914. He also states that the space allowed for office purposes in the suggested specifications is not sufficient to permit the office force to work to advantage. The station should be adequate for both freight and passengers, and should contain sufficient office room so that employes can effectively perform their duties.

IT IS THEREFORE ORDERED, That the respondent, the Chicago, Milwaukee & St. Paul Railway Company, erect a modern station building east of its tracks at Mosinee in Marathon county, which shall be adequate for the freight and passenger traffic. Plans to be submitted to the Commission for approval.

October 1, 1914, is considered a reasonable date at which the improvements ordered herein shall be completed and open for public use.

CITY OF NEW RICHMOND

vs.

CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY COMPANY,

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY.

Submitted Dec. 17, 1913. Decided June 6, 1914.

The petitioner alleges that it is practicable and that public convenience and necessity require that the respondents erect and maintain a union passenger depot at New Richmond and asks that the respondents be ordered to construct, maintain and use such a depot, the adequacy of which is not questioned, very close to the to be gained by the change would be too slight to warrant the expense involved. The C. St. P. M. & O. Ry. Co. maintains a depot, the adequacy of which is not questioned, very close to the retail business district of the city. The depot of the M. St. P. & S. S. M. Ry. Co. is located about one-half mile distant and is admitted by the railway company to be in need of improvement. The petitioner alleges that a union depot is necessary for the convenience both of transfer passengers and of residents of the city and contends that it should be erected at the present time in order to avoid the waste consequent upon the construction of a new separate depot by the M. St. P. & S. S. M. Ry. Co. Residents of the city are divided in their opinions as to the desirability of a union depot.

In passing upon the question as to whether a union depot is required by public convenience and necessity it is necessary to consider the convenience of the traveling public, including both the residents of the community and those who may use the station as a transfer point, and the expenditure to be imposed upon the railway companies.

Held: Public convenience and necessity do not require the erection of a union depot at New Richmond at the present time in view of the fact that such a depot would not be of material advantage to the city as a whole and the further fact that the transfer traffic, independent of the city patronage, is not of sufficient importance to justify the erection of such a depot, especially when such action would place a heavy financial burden upon one of the respondents which is at present rendering adequate station service. The petition is dismissed.

If the matter of the adequacy of the M. St. P. & S. S. M. Ry. Co's station is not satisfactorily adjusted it can be brought to the attention of the Commission for immediate relief by an appropriate complaint.

The city of New Richmond, in its petition, alleges that it is practicable and that public convenience and necessity require that the respondent railway companies erect and maintain at

New Richmond a union passenger depot, and prays that the Commission order the said companies to construct, maintain and use such a union depot.

The respondent Chicago, St. Paul, Minneapolis & Omaha Railway Company, in its separate answer, alleges that the present facilities afforded by it at New Richmond are centrally located, up to date and adequate for all the requirements of that city.

The Minneapolis, St. Paul & Sault Ste. Marie Railway Company, in its separate answer, denies that public convenience and necessity require the erection of a union depot at New Richmond and asks that the complaint be dismissed.

A hearing was held at New Richmond on December 17, 1913, at which *McNally & Doar* appeared for the petitioner, *R. L. Kennedy* for the Chicago, St. Paul, Minneapolis & Omaha Railway Company, and *A. H. Bright* for the Minneapolis, St. Paul & Sault Ste. Marie Railway Company.

The petitioner desires a union passenger station located at the intersection of the two railway lines. It was pointed out that such a station would be convenient for transfer passengers, since relatively close connections between trains on the two lines are made at New Richmond. Under the existing arrangements it is often impossible for a passenger on one line to change to a train on the other line because of the distance between the stations. The chairmen of the towns of Forest and Glenwood testified that they and other persons residing near the line of the Minneapolis, St. Paul & Sault Ste. Marie Railway Company east of New Richmond are obliged to travel to Hudson, their county seat, by a circuitous route under the existing conditions, whereas with a union station they could take a more direct route at a smaller expense. However, it was admitted that the number of persons who travel to Hudson from points east of New Richmond is relatively small as compared with the total number of persons using the stations at the city. Residents of New Richmond, including the mayor, testified in favor of a union depot, but a number of residents also appeared in opposition to the proposal. The opposing witnesses pointed out that the present station of the Chicago, St. Paul, Minneapolis & Omaha Railway Company is conveniently located for the business section of the city, and asserted that the inaccessibility of proposed union depot would more than outweigh the conveni-

ences which would be derived from it. Two petitions signed by numerous residents of the city were offered, one in favor of and one in opposition to the establishment of a union station.

The testimony shows that the Chicago, St. Paul, Minneapolis & Omaha Railway Company's station is located on Minnesota avenue between Third and Fourth streets, very close to the retail business district. The existing structure was built in 1899, and was remodeled in 1910, at a cost of approximately $6,000. The adequacy of this depot is not questioned.

The Minneapolis, St. Paul & Sault Ste. Marie Railway Company's station is located north of the Willow river at the corner of Main and High streets, near the intersection of the two railway lines, and about one-half mile distant from the Chicago, St. Paul, Minneapolis & Omaha Railway Company's depot. Counsel stated that it is practically conceded that something should be done to improve the Minneapolis, St. Paul & Sault Ste. Marie Railway Company's station facilities at New Richmond, and that negotiations are in progress to that end. In the joint brief filed by the respondents, this company states that it will meet the proposition of an adequate station and the proper location of it in a proper proceeding and at the proper time.

The respondents, in their joint brief, admit that it is practicable to build a union station at the side proposed by the city, but take the position that the public convenience to be gained by the change is too slight to warrant the expense involved. In its brief the city lays stress upon the fact that the Minneapolis, St. Paul & Sault Ste. Marie Railway Company's depot is admittedly inadequate and that it will have to be replaced in the near future. It is argued that because of this condition, the erection of a union station should be brought about at the present time, even though the Chicago, St. Paul, Minneapolis & Omaha Railway Company's depot is sufficient for the immediate needs of the city, since such a union station would involve a still greater cost at some future time if a new separate station is built by the Minneapolis, St. Paul & Sault Ste. Marie Railway Company.

The Commission is empowered to order the erection of a union station only when it is practicable and required by public convenience and necessity. In passing upon the questions here presented, it is necessary to consider the convenience of the traveling public, including both those who may use New Richmond as a transfer point and the residents of the city. The expenditure

to be imposed upon the railway companies is also an element which must be taken into account.

In our judgment the conditions at New Richmond, as developed by the testimony, are such that the granting of the petition is not warranted. If a union station should be erected at the site proposed, it would necessitate the practical abandonment of the Chicago, St. Paul, Minneapolis & Omaha Railway Company's depot which is in good condition and which is adequate under the existing traffic conditions. This depot is located near the center of the city and is more convenient to a majority of the residents of New Richmond than the proposed union structure would be. Some additional convenience would be afforded transfer passengers, but it should be borne in mind that both of the railway lines run directly to St. Paul and Minneapolis, which are the centers of trade for this locality. For this reason it is probable that the exchange of passengers at New Richmond is confined chiefly to local traffic, and the testimony indicates that such traffic is not important as compared with that originating in the city. It is evident that the erection of a union depot would not, in this particular case, be of material advantage to the city as a whole, and it is clear that the transfer traffic is not of sufficient importance to justify it, independent of the city patronage, especially when such action would place a heavy financial burden upon one of the respondents which is at present rendering adequate station service.

We find, therefore, that while it may be practicable to erect a union station at New Richmond, public convenience and necessity do not require such action at the present time.

The question of the adequacy of the Minneapolis, St. Paul & Sault Ste. Marie Railway Company's station is not before the Commission in this proceeding. However, counsel conceded that additional station facilities should be provided, and it is assumed that immediate action will be taken by the company. If this matter is not satisfactorily adjusted it can be brought to the attention of the Commission for immediate relief by an appropriate complaint.

IT IS THEREFORE ORDERED, That the petition herein be and the same is hereby dismissed.

IN RE APPLICATION OF THE BROWNTOWN MUNICIPAL LIGHT PLANT FOR AUTHORITY TO INCREASE RATES.

Submitted April 8, 1914. Decided June 8, 1914.

The Browntown Mun. Lt. Plant applies for authority to increase its minimum charge for electric service from 50 cts. to $1 per month on the ground that the present revenues are insufficient. Twenty-six citizens of the village present a petition requesting that the operation of the utility be discontinued or that its business be placed on a self-supporting basis. A valuation of the property of the utility was made and its revenues and expenses were investigated. The utility, which was established in 1910, is operating at a relatively large deficit. The community is small and a large proportion of the residents have failed to patronize the utility. It appears that the flat rates in the utility's present schedule have been disregarded in charging for unmetered service, that the revenue from municipal street lighting fails to cover the cost and that the village hall has been supplied with service without charge.

The question as to whether the rates of a municipal utility must be such that the cost of service shall rest entirely upon the consumers is one which depends upon the circumstances for its answer, for the rates must be fair to the consumers as well as to the owners of the utility and the actual cost is not always the entire measure of fairness. In the instant case, in view of the fact that the citizens of the village have failed so largely to patronize their own utility, although they must have known that their undivided support was necessary to its success, it appears unreasonable to load the entire loss of operation upon those who now use the service of the utility.

The question of the authorization of a given minimum charge should be decided with reference to the reasonableness of that particular charge rather than with reference to the total revenues of the utility, although the latter should also be considered. *In re Appl. McGowan W. Lt. & P. Co.* 1914, 14 W. R. C. R. 325.

Held: The utility's rates require revision. The utility is authorized to put into effect a schedule of rates determined by the Commission. The minimum bill is to be 75 cts. per month. Charges are to be made to all classes of consumers strictly in accordance with the schedule.

An application for authority to increase rates for electric service was filed with the Commission, November 19, 1913, by E. J. Strayer, secretary of the lighting board of the village of Browntown. The applicant states that the Browntown municipal lighting plant is not self-sustaining and asks that the minimum charge for service be increased from 50 cts. to $1 per month. At the

same time a petition signed by twenty-six citizens of the village was filed with the Commission, requesting that operation of the plant be discontinued or that the business be placed on a self-supporting basis.

Hearing was held at the office of the Commission at Madison, April 8, 1914. *William Good,* chairman of the lighting board, and *John Jones* appeared in favor of the application. No one appeared in opposition to it.

The testimony brought out the fact that the plant, which was built in 1910, had thirty-one consumers. All except two of the business places in the village use current but only eleven of the sixty-five residences are patrons of the plant. The chairman of the lighting board, in testifying, stated that a mere increase of the minimum monthly charge as asked for in the application would not diminish the operating deficit very much but that the schedules should be further modified by establishing a rate of 15 cts. per kw-hr. for the first 50 kw-hr. used per month. The witness did not state what in his opinion should be charged for the balance of the current.

The testimony showed also that some consumers are charged for service at flat rates, that these charges are not entirely uniform and that where meters are not used a tendency toward wastefulness takes place. The elimination of the flat rate charges or a revision of them was requested.

Data concerning the amount of business, the revenues and expenses were submitted at the hearing and these supplement the report previously filed with the Commission for the year ending June 30, 1913.

VALUATION.

A valuation of the property used and useful for the applicant's electric business has been made by the Commission and is set forth in Table I:

TABLE I.

VALUATION OF PHYSICAL PROPERTY.

BROWNTOWN MUNICIPAL ELECTRIC PLANT.

As of March 1, 1914.

	Cost new.	Present value.
Land	$60	$60
Transmission and distribution	1,459	1,249
Buildings and miscellaneous structures	446	397
Plant equipment	1,816	1,601
General equipment	54	39
Total	$3,835	$3,346
Add 12 per cent (see note below)	460	402
Total	$4,295	$3,748
Material and supplies	235	235
Total	$4,530	$3,983

NOTE: — Addition of 12 per cent to cover engineering, superintendence, interest during construction, contingencies, etc.

The amount voted by the village in 1910 for installing the plant was $3,600. It seems quite probable that this amount was added to since that time. If so, the cost of additions may have been included in the operating expense of the plant; but examination of the recent expenditures does not reveal any important item that could have been chargeable to plant extension. The present indebtedness of the village on account of the electric plant is reported to be $3,100 upon which the annual interest is 6 per cent or $186.

REVENUES AND EXPENSES.

The operating statements have been recorded in the form of receipts and disbursements and have been reported in this form to the Commission. For the purposes of this case the figures will be treated as though they were revenues and expenses. The summary of receipts and disbursements for the year ending March 26, 1914, is shown in Table II:

TABLE II.

RECEIPTS AND DISBURSEMENTS.

Year ending March 26, 1914.

Receipts:		
Street lighting	$294.52	
Commercial lighting and supplies	571.69	
Total receipts		$866.21
Disbursements:		
Oil	$567.26	
Labor	480.00	
Repairs	79.94	
Supplies	129.13	
Freight and drayage	23.38	
Miscellaneous	26.93	
Total above	$1,306.64	
Interest	186.00	
Total disbursements		1,492.64
Deficit		$626.43

The foregoing statement of disbursements does not include any provision for renewal of equipment, a condition which inevitably must be met in some way if the plant is to continue to operate. According to the usual rate of depreciation of small electric plants, the allowance for depreciation in this case should be about $180 per year, which brings the total cost for the year to $1,672.64, and the total deficit to $806.43. These figures show decisively that the rates as a whole would have to be doubled if the deficit from operation were to be wiped out by a modification of the schedule of rates. That the deficit could be removed even in this drastic manner, is extremely doubtful for, it seems, an increase so great would be sure to drive away much of the present business. This raises the question of whether the rates must be such that cost of service shall rest entirely upon the consumers. Clearly, this depends upon circumstances for the rates must be fair to the consumers as well as to the owners of the utility, and the actual cost is not always the entire measure of fairness.

The village has constructed a municipal electric plant for the mutual benefit, it is to be supposed, of its citizens. The obligation of the citizens, however, does not end with the building of the plant for the plant needs patronage in order to prosper; and the owners, in this instance, are dependent upon themselves as patrons of the plant. This utility operates in a community so

small that the undivided support of all its citizens is needed to make the undertaking successful. That this is true must have been known from the inception of the utility undertaking for it is evident that if every building in the village were electrically lighted the total electric business would still be small. But we find that only eleven out of sixty-five residences, or 17 per cent, take electric service. Under these conditions, should all the loss from operation be loaded upon those who now use service? To do so, appears to us unreasonable. The addition of thirty residence customers with average monthly bills of $1.50 would be sufficient to practically eliminate the deficit chargeable to commercial lighting. It does not appear unreasonable to expect such an increase.

The application calls for an increase in the minimum monthly charge for service in order to make up the loss from operation; but when the matter came to a hearing it was realized by those who appeared for the utility that a minimum charge of $1 instead of 50 cts. per month would not increase the revenues very much. The circumstances respecting the minimum bill are similar to those recently found by the Commission in another case:

"As far as the total revenues of the utility are concerned, it is clear that a minimum charge of $1 per month will not produce an excessive amount of revenue. A minimum charge very much higher than $1 a month would, in fact, fail to make up the deficit. It appears to be impracticable to attempt to any considerable extent to increase the total revenues of the utility by means of a minimum charge. Consequently the question of authorization of a minimum charge of $1 should be decided with reference to the reasonableness of that particular charge rather than with reference to the total revenues of the utility, although this matter is also an item to be considered." *In re Appl. McGowan W. Lt. & P. Co. for Authority to Increase Rates,* 1914, 14 W. R. C. R. 325.

The data upon which a minimum charge ordinarily would be computed have not been submitted in this case, although the data probably could be developed if they appeared necessary for the disposition of the case. We do not see that any injustice will be done if this question be decided upon information derived in other similar cases and if the minimum charge be fixed at 75 cts. per month.

The applicant's meter rates presumably have been in effect since the plant was built in 1910 but they have never been filed with the Commission. The application shows that the rates charged for measured service are as follows:

Present Meter Rates.

15 cts. per kw-hr. for the first 10 kw-hr. per month.
10 " " " " " next 10 " " "
8 " " " " " current in excess of 20 kw-hr. per month.
Minimum monthly charge $0.50.

Flat rates were filed by the applicant April 24, 1912. These rates are shown below:

Present Flat Rates.

5 c-p. 8 " 16 "	carbon lamps	.....	25 cts. per month
32 "	" "	.....	50 " " "
45 watt	tungsten "	.....	25 " " "
70 "	" "	.....	45 " " "
100 "	" "	.....	70 " " "
110 "	" "	.....	80 " " "

It appears from data submitted to the Commission that this schedule of flat rates is disregarded in charging for unmetered service as in nearly all instances where such service is rendered the actual charge is less than it would be if it were made according to the schedule. The utility must correct this variance between its practice and its rate schedule.

As the flat rates affect only nine customers, it might be supposed that the flat rate schedule is not an important part of the matter under consideration. But nine consumers constitute 29 per cent of all the customers served by the applicant so that it is apparent that the financial loss in supplying flat rate customers might be a considerable part of the total deficit. In fixing a schedule of flat rate charges, the rate per watt of load connected should bear some relation to the amount of service rendered, but this relation is so difficult to ascertain and classify that the application of flat rates ought to be limited to those cases in which the installation of a meter is too expensive. There should be also a minimum charge for unmetered service in order to insure that a reasonable part of the cost of service be paid by the customer. These factors will be given consideration in revising the applicant's flat rate schedule.

The increase asked for in the meter rate would increase the revenues about $150 per year and would affect the individual bills as shown in Table III:

TABLE III.

COMPARISON OF PRESENT AND PROPOSED METER RATES.

Kw-hr. per month.	Present charge.	Proposed charge.	Percent increase.
2	$.50	$.75	50
4	.50	.75	50
6	.90	.90	.....
8	1.20	1.20	.....
10	1.50	1.50	.....
12	1.70	1.80	5.9
14	1.90	2.10	10.5
16	2.10	2.40	14.3
18	2.30	2.70	17.4
20	2.50	3.00	20.0
22	2.66	3.30	24.0
24	2.82	3.60	27.6
26	2.98	3.90	30.8
28	3.14	4.20	33.8
30	3.30	4.50	36.4
32	3.46	4.80	38.7
34	3.62	5.10	40.8
36	3.78	5.40	42.8
40	4.10	6.00	46.3
45	4.50	6.75	50.0
50	4.90	7.50	53.0

Although the suggested rate would considerably increase the bills of some consumers it cannot be concluded, in the face of the large operating deficit, that the increase asked for is beyond reason. A rate of 15 cts. per kw-hr. for the first 50 kw-hr. per month and 12 cts. per kw-hr. for the balance should be charged until the business is on a firmer footing.

Nothing was said at the hearing relative to increasing the charge to the village for street lighting service, but apportionment of the operating expenses shows that this is necessary if the village is to bear the cost of service received by it. The revenue received from street lighting during the year ending March 26, 1914, was $294.52. The cost of this service was about $535. Under the circumstances, it appears that the electric plant should be credited with $65 per arc lamp and $15 per 25 watt tungsten lamp for street lighting. This would make a total earning from street lighting of $510.

It is shown by a report filed with the Commission that the village hall is supplied with electric service but that no account had been kept of the amount of current consumed. The plant should be credited with this service either on the meter rate or the flat rate. This is so evident that argument upon the points appear to be unnecessary.

IT IS THEREFORE ORDERED, That the village of Browntown be and the same hereby is authorized to abandon its present schedule of rates for electric service and to substitute in lieu thereof the following schedule deemed just and reasonable:

A. Commercial Lighting.

I. Meter Rate.

15 cts. per kw-hr. for the first 50 kw-hr. per month.
12 cts. per kw-hr. for the use above 50 kw-hr. per month.

II. Flat Rate.

1.0 ct. per month per watt connected.

III. Minimum Charge for Meter and Flat Rate Schedules.

The minimum charge shall be 75 cts. per month.

B. Street Lighting.

3.5 ampere 225 volt arc lamps.....$65.00 each per year
25 watt tungsten lamps.....$15.00 each per year

Charges shall be made to all classes of consumers strictly in accordance with the schedule.

IN RE APPLICATION OF THE WESTERN CRAWFORD COUNTY FARMERS' MUTUAL TELEPHONE COMPANY FOR AUTHORITY TO ESTABLISH A CHECKING STATION WITHIN THE CITY OF PRAIRIE DU CHIEN AND FOR CONNECTION OF SUCH STATION WITH ALL OTHER TELEPHONE SYSTEMS OPERATING IN SAID CITY.

Submitted Dec. 16, 1913. Decided June 9, 1914.

The Western Crawford County Farmers' Mutual Tel. Co. applies for authority to establish a checking station in the city of Prairie du Chien and for the connection of this station with all other telephone systems in the city. The applicant desires the station for the purpose of checking the joint business of the companies with which it is connected under the terms of the order issued in *Union Tel. Co. v. Western Crawford Co. F. M. T. Co. et al.* 1912, 11 W. R. C. R. 42. The applicant maintains a few telephones in the city, installed prior to the enactment of ch. 610, laws of 1913, but these are used solely for communication with rural subscribers and not for communication within the city. At the present time there are two lines within the city limits where checking would be required. One of these is a clear line to Eastman owned jointly by the applicant and the Union Tel. Co. The other is a clear line to Bridgeport leased by the Union Tel. Co. from the Tri-State Tel. Co. Calls over this line are checked by an operator representing each company and the checkings are compared daily. Calls in coming to Prairie du Chien over the Prairie du Chien–Eastman line are checked by both companies; those outgoing from Prairie du Chien over this line are checked only by the Union Tel. Co. but could be checked by the applicant, if desired, without a checking station.

Held: 1. The applicant has no right to increase the number of its telephones in the city of Prairie du Chien except upon a showing that public convenience and necessity require another telephone exchange within the city for the purpose of rendering local service. *Citizens Tel. Co. of Eau Claire v. Railroad Comm. of Wis.* 1914, 146 N. W. 798.

2. Public convenience and necessity do not require an additional telephone exchange within the city of Prairie du Chien.

3. Inasmuch as the checking of traffic between the applicant and the Union Tel. Co. is now, or readily can be, satisfactorily accomplished without any additional facilities or expense, the location of a checking station within the city of Prairie du Chien is unnecessary under present conditions.

The petition is dismissed.

The application in this matter was filed on October 17, 1913. The petitioner alleges in substance that it has telephone lines which extend into various parts of Crawford county and connect with one or the other of two lines running into and connecting

at a common station in the city of Prairie du Chien; that it has several subscribers in the city of Prairie du Chien, including the County Board of Supervisors which has a telephone installed at the court house; and that by virtue of an order of the Commission establishing the rates for joint service between the petitioner and other telephone companies *(Union Tel. Co. v. Western Crawford Co. F. M. T. Co. et al.* 1912, 11 W. R. C. R. 42) it has become necessary for the petitioner to establish a checking station in the city of Prairie du Chien through which all business in which the company may be interested shall pass so that the petitioner may have the opportunity to keep accurate records of the telephone service that is rendered to its subscribers or the subscribers of any other telephone company which may see fit to use the lines and the equipment of the petitioner, to the end that a proper accounting may be had and the interests of the petitioner properly protected.

The petitioner prays that an order be issued permitting and directing it to establish a checking station within the city of Prairie du Chien and further directing that this station be connected with all telephone systems within the city.

A hearing was held December 16, 1913, at the office of the Commission at Madison. *A. H. Long* appeared for the petitioner and *Graves & Earl,* by *Mr. Earl,* appeared for the Union Telephone Company of Prairie du Chien.

Incidentally upon the hearing it was stated that the petitioner might have a right to install this telephone as well as other telephones in the city of Prairie du Chien because of phones that it had installed in said city prior to the enactment of ch. 610, laws of 1913. This chapter amended sec. 1797*m*—74 so that it now reads in part as follows:

"No telephone exchange for furnishing local service to subscribers within any village or city shall be installed in such village or city by any public utility, other than those already furnishing such telephone service therein, * * * except that any public utility already engaged in furnishing local service to subscribers within any city or village may extend its exchange within such city or village without the authority of the commission."

In the instant case the subscribers having the few telephones of the petitioner which are located in the city of Prairie du Chien use them for the purpose of communicating with the petitioner's

rural subscribers and not for the purpose of communicating with each other within the city. The case is analogous to that of *Citizens Tel. Co. of Eau Claire v. Railroad Com. of Wis.* 1914, 146 N. W. 798. In the *Eau Claire* case the subscribers within the city of Eau Claire occasionally used the lines of the Chippewa County Telephone Company for inter-communication. The lines of the Chippewa company were primarily used by its Eau Claire subscribers, however, for communicating with its rural subscribers and its subscribers in the city of Chippewa Falls. The Wisconsin Telephone Company maintained a local exchange within the city of Eau Claire and had approximately 2,000 subscribers. The Chippewa County Telephone Company had but 28 subscribers in the city of Eau Claire. The court says:

> The Chippewa company, it appears, solicited subscribers in Eau Claire for out of town business, and the subscribers testify they made their subscription upon this understanding. * * * It is evident that the local service actually rendered at Eau Claire was in the nature of an occasional accommodation to the subscribers in the city and was incidental to the rural and toll line service of the company. The evidence given by subscribers tends strongly to support this conclusion. We are persuaded by the evidence in the record that the Chippewa company at no time operated a local telephone exchange in the city of Eau Claire for furnishing local telephone service to subscribers in the city within the meaning of the provisions of section 1797*m*—74."

Upon the authority of the *Eau Claire* case it is clear that the petitioner has no right to increase the number of its telephones in the city of Prairie du Chien except upon a showing that public convenience and necessity require another telephone exchange within the city for the purpose of rendering local service. As the petitioner's subscribers have now the means of communicating with the subscribers of the local exchange in the city, there is no necessity for any citizens of the city to subscribe to the petitioner's system as he can obtain communication with the petitioner's subscribers through the local exchange.

Turning to the question of installing a checking station in the city of Prairie du Chien to be used to check and handle all traffic between the Union Telephone Company and the Western Crawford County Farmers' Mutual Telephone Company, we shall consider briefly the situation disclosed by the investigation.

It appears that at the present time there are only two lines within the city limits where checking would be required. One of these lines is a clear line to Eastman. The other is a clear line to Bridgeport. The line between Prairie du Chien and Eastman is jointly owned, that is, that portion of the line between the city limits of Prairie du Chien and the Union Telephone Company's exchange is owned by the latter company, and that portion of the line in the rural districts is owned by the Mutual company. The line between Prairie du Chien and Bridgeport is the property of the Tri-State Telephone Company and is leased to the Union Telephone Company. Besides these two lines, the Mutual company has one line entering Prairie du Chien with the station located in the court house. The company also has a line extending from Eastman to the city limits of Prairie du Chien which has between thirty and forty subscribers. The regular service offered by the Union Telephone Company is continuous throughout the night and day; that of the Mutual company is available from about 6 a. m. to about 8 or 9 p. m. The rate between Bridgeport and Prairie du Chien is 5 cts. per message either outgoing or incoming on either exchange. The rate charged by the Union Telephone Company between Eastman and Prairie du Chien is 3 cts. except to parties who pay a switching fee in which case no charge is made. The incoming and outgoing calls between Prairie du Chien and Bridgeport are checked both at the originating and terminating station. The operators at both stations check with each other daily. The operator at Bridgeport is employed and paid by the Mutual company. The Prairie du Chien-Eastman calls outgoing from Prairie du Chien are checked by the Union company only but could also be checked by the Mutual company if desired. The Prairie du Chien-Eastman calls incoming at Prairie du chien are checked by both companies. The operator at Eastman is an employe of the Mutual company. The operators of both companies compare checkings every day. Under the circumstances it is apparent that the present facilities are such that all calls are, or readily can be, checked without additional expense or inconvenience. The need of such a checking station as that asked for by the Mutual company is, therefore, not apparent. However, should some loaded line be extended to the city of Prairie du Chien and be connected to the

Union Telephone Company's switchboard, such extended line being a part of the Mutual company's system, such a checking station might become necessary. Some arrangement would then have to be made whereby calls on such a line could be classified.

As the checking of traffic between the two companies is now, or readily can be, satisfactorily accomplished without any additional facilities or expense, it appears that the location of a checking station within the city of Prairie du Chien would be superfluous and would cause an unnecessary expenditure of money. For the reasons stated the petition will be dismissed.

NOW, THEREFORE, IT IS ORDERED, That the petition be and the same is hereby dismissed.

JOHN WERNER ET AL.

vs.

CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Submitted March 24, 1914. Decided June 10, 1914.

The petitioners allege that the train service rendered by the respondent at Pittsville is inadequate. The complaint was temporarily satisfied by the operation of additional trains which were later discontinued, after which the petitioners again complained to the Commission. The present passenger service consists of one mixed train operated each way daily between Babcock and Pittsville and scheduled to leave Babcock at 6:10 a. m., arrive at Pittsville at 6:45 a. m., leave Pittsville at 11:50 a. m. and arrive at Babcock at 12:30 p. m. The evidence shows that the northbound train is frequently late. The petitioners ask that a passenger or mixed train be run to Pittsville and back from Babcock, connecting with train No. 5 on the main line, which is scheduled to arrive at Babcock at 5:33 p. m.

The passenger business on a branch line cannot always be expected to be entirely self-supporting. Where this business is conducted in connection with a profitable freight business on the same trains, the combined earnings must be considered in determining the adequacy of the service. In the instant case the passenger service can be improved in a manner which will also add to the convenience of the freight service, without placing an unreasonable burden upon the railway company.

Held: The service complained of is inadequate. The respondent is ordered to operate a train for the accommodation of passengers and freight from Babcock to Pittsville and return, daily except Sunday, leaving Babcock after a connection with train No. 5 on the main line now scheduled to arrive at that station at 5:33 p. m.

This complaint was filed with the Commission on March 14, 1912, by twenty-seven residents of Pittsville and vicinity. It alleges in substance that the train service rendered by the Chicago, Milwaukee & St. Paul Railway Company at Pittsville is inadequate.

The respondent, answering the complaint informally, states that steps are being taken to improve the service to become effective at an early date.

The matter was duly set for hearing, but on April 30, 1912, the Commission was apprised by the petitioners that additional trains were being operated and that so long as this service was

continued the complaint would be satisfied. Further proceedings were therefore held in abeyance. Under a new schedule made effective on November 9, 1913, the additional trains above referred to were discontinued, so that the present service is substantially the same as that rendered prior to the filing of the original complaint. This change was brought to the Commission's attention by the petitioners, and, after some correspondence looking toward an informal adjustment of the matter, it became evident that a formal hearing was necessary. Such a hearing was therefore held at Pittsville on March 24, 1914, at which a committee composed of *Mayor John Werner, Supervisors J. F. Beidl* and *H. C. McCoy* and *Alderman Ed. Clark* appeared for the petitioners, and *Superintendent H. H. Ober* for the respondent.

The city of Pittsville is the terminus of one of the three branch lines which leave the main line of the Wisconsin Valley division at Babcock. The three lines operate over the same track to Dexterville Junction at which point the Romadka branch is diverted. The Pittsville and Arpin branches continue together to Pittsville Junction, from which the Pittsville line is diverted 1.6 miles northward to Pittsville. The distance from Babcock to Pittsville is 9.9 miles. The testimony shows that the present passenger service consists of one mixed train in each direction. The northbound train is scheduled to connect with train No. 1 on the main line at Babcock, leaving that point at 6:10 a. m. and arriving in Pittsville at 6:45 a. m. Returning it is scheduled to leave Pittsville at 11:50 a. m. arriving in Babcock at 12:30 p. m., connecting there with train No. 6 on the main line. Witnesses stated that the northbound train is frequently late. Data submitted by the company subsequent to the hearing show that out of a total of fifty-seven trips made by this train from January 1, 1914, to March 14, 1914, it was more than thirty minutes late twenty-eight times. On twelve days it failed to arrive until after 8:00 a. m. and on seven days it arrived later than 9.00 a. m. The habitual failure of this train to make its schedule was explained by the superintendent as the result of waiting for connections at Babcock.

When this train is late it allows very little time for business men to look over their mail and answer important letters on the same day, since the only outbound train is scheduled to leave Pittsville at 11.50 a. m. The delay occasioned by waiting twen-

ty-four hours before posting answers to business correspondence is a source of considerable irritation for business men of the community.

It was pointed out that under the existing schedule it is impossible to reach business centers to the south and return the same day. Moreover, to reach Pittsville from Milwaukee one must leave that city at 8.40 in the evening, wait for connections from three to four hours at New Lisbon and about three hours at Babcock, arriving in Pittsville at 6:45 a. m. Witnesses asserted that the present service is inconvenient for shippers of veal, eggs, cream and other farm products, since goods must be shipped in the morning for the following day's market in Milwaukee or Chicago.

The petitioners ask that a passenger or mixed train be run to Pittsville and back from Babcock, connecting with train No. 5 on the main line, which is scheduled to arrive at Babcock at 5:33 p. m. The operation of such a train would enable residents of Pittsville to reach outside points and return the same day. It would make possible direct connections from Milwaukee and other points south. It would place shippers of perishable goods into closer touch with the Milwaukee and Chicago markets. And incidentally it would make possible a much more satisfactory mail service, should the post-office department see fit to take advantage of such facilities.

At the hearing the superintendent estimated that it would cost $1,124.94 per month to operate the service desired by the petitioners. However, in a statement submitted subsequent to the hearing the respondent shows that the cost of operating the two trains which were put on at the time the original complaint was made for the fifteen months prior to November 9, 1913, was $8,879.61, or an approximate average of $600 per month.

Pittsville is credited with a population of 450 in the census of 1910, but one of the supervisors estimated the present population as 530. The city contains a high school attended by a number of pupils from the outlying districts, and has about fifteen stores. It is surrounded by a farming community which is tributary to it for a considerable distance, especially to the north. A statement of its freight and passenger earnings at Pittsville during 1913, as submitted by the company, shows that in that year the ticket sales at that station amounted to $3,052.59, receipts from inbound freight to $11,113.36, and receipts from outbound

freight to $8,435.05, making a total revenue of $22,601.00. Assuming that inbound passenger traffic gives rise to earnings similar to the outbound traffic, the total earnings should be increased to $25,673.59, or a monthly average of $2,139.47.

The respondent claims that its freight service is entirely adequate and that the additional passenger business to be secured by the proposed train would be insufficient to justify its operation. On a branch line of this sort it cannot be expected that the passenger business should be entirely self-supporting. If a single exclusive passenger train were operated to Pittsville it might conceivably be run at a loss. But where a passenger business is conducted in connection with a profitable freight business on the same trains, the combined earnings must be considered in determining the adequacy of the service. In the present case the passenger service is, in our judgment, inadequate; but it can be improved in a manner which will also add to the convenience of the freight service, without placing an unreasonable burden upon the company.

Under such circumstances it is our judgment that an evening train should be operated from Babcock to Pittsville and return, leaving Babcock after a connection with main line train No. 5, which is scheduled to arrive there at 5:33 p. m.

A witness complained at the hearing that no telephone is installed in the station whereby patrons can ascertain the time of arrival of late trains. The superintendent stated that arrangements would be made to install a telephone. This matter is therefore not passed upon in this decision.

IT IS THEREFORE ORDERED, That the respondent, the Chicago, Milwaukee & St. Paul Railway Company, operate a train for the accommodation of passengers and freight from Babcock to Pittsville and return, daily except Sunday, leaving Babcock after a connection with train No. 5 on the main line now scheduled to arrive at that station at 5:33 p. m.

NORTHWESTERN IRON COMPANY
vs.
CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Decided June 12, 1914.

The petitioner alleges that the charge of 12 cts. per cwt. exacted by the respondent for the transportation of a shipment of fuel oil from Mayville to West Allis was exorbitant to the extent that it exceeded the rate of 10 cts. per cwt. put into effect by the respondent since the shipment moved. It appears that the 10 ct. rate was not put into effect earlier for the reason that few if any shipments of fuel oil had been made between the points in question.

Held: The charge complained of was unusual. The refund claimed is ordered.

The petitioner alleges that on January 9, 1914, it made a shipment of petroleum fuel oil from Mayville, Wis., to West Allis, Wis., over the respondent's line and was charged therefor at the rate of 12 cts. per cwt., as provided in respondent's tariff G. F. D. 10,000–A; that West Allis is a station within the rate territory of the city of Milwaukee, and on a great many commodities takes the same rate as shipments destined to Milwaukee; that at the time the shipment in question moved the rate to Milwaukee was 10 cts. per cwt.; that the rate of 12 cts. per cwt. was illegal, exorbitant and unusual to the extent that it exceeded a rate of 10 cts. per cwt.; that subsequent to the movement the respondent published a rate of 10 cts. per cwt. from point of origination to destination in its supplement No. 24 to said tariff effective June 1, 1914; that the aggregate weight of shipment was 47,020 lb.; that the charges exacted therefor were $56.42, or $9.40 more than a reasonable charge. Wherefore, petitioner prays that the respondent be authorized and directed to refund to it the said sum of $9.40.

The respondent railway company, answering the petition, states that at the time the shipment in question moved the only rate lawfully applicable was 12 cts. per cwt., and that subsequent

to the date of shipment the rate was reduced to 10 cts. per cwt. It admits all the other allegations of the petition.

The hearing was waived and the matter submitted upon the pleadings, correspondence and documents on file.

The omission of a rate of 10 cts. per cwt. on petroleum fuel oil moving between the points mentioned in the petition was evidently due to the fact that no such shipments were contemplated and perhaps none had ever previously been made. Since the movement under consideration occurred, the respondent amended its tariff providing a rate in line with the rates on other commodities. There is no reason why petroleum fuel oil should take a higher rate than many of the other commodities listed in the respondent's tariff and applicable to shipments between the points involved.

We find and determine that the charge exacted of the petitioner on the aforesaid shipment was unusual, and that the reasonable charge therefor is 10 cts. per cwt. The amount of the reparation that will be awarded is $9.40.

NOW, THEREFORE, IT IS ORDERED, That the Chicago, Milwaukee & St. Paul Railway Company be and the same is hereby authorized and directed to refund to the Northwestern Iron Company the sum of $9.40.

WAUKESHA LIME AND STONE COMPANY

vs.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY, CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY COMPANY.

Decided June 13, 1914.

The petitioner alleges that the charges exacted by the respondents for the transportation of two carload shipments of lime stone from Waukesha to Black River Falls were exorbitant insofar as they exceeded the rates established in *Waukesha Lime & Stone Co. v. M. St. P. & S. S. M. R. Co. et al.* 1914, 13 W. R. C. R. 471, and applied to the respondents by a supplemental order issued Feb. 7, 1914.

Held: 1. The rate of 7½ cts. per cwt., applied to the shipment of March 13, 1914, was illegal and reparation could have been made without authority from the Commission.

2. The rate of 10 cts. per cwt. applied to the shipment of Feb. 7, 1914, was the rate then legally in effect, but was unusual and exorbitant.

Refund is ordered on the basis of the rate of 4.3 cts. per cwt., established for the distance involved by the orders cited.

The petitioner alleges that on February 7, 1914, it shipped a carload of ground lime stone from Waukesha to Black River Falls, on which it was obliged to pay freight charges at the rate of 10 cts. per 100 lb., amounting to $85.20; that on March 13, 1914, it shipped another carload of lime stone from Waukesha to Black River Falls, on which it was obliged to pay charges assessed at the rate of 7½ cts. per 100 lb., amounting to $63.45; that said rates are unusual and exorbitant insofar as they exceed the rates established by the Commission in the case of the *Waukesha Lime & Stone Company v. M. St. P. & S. S. M. R. Co. et al.* 1914, 13 W. R. C. R. 471; and the petitioner prays that the respondent railway companies be authorized and directed to refund to it the excess charge.

The respondent railway companies, answering separately, admit all the allegations of the petitioner and declare their readiness to make reparation if authorized to do so.

Through inadvertence in the case of the *Waukesha Lime & Stone Company v. M. St. P. & S. S. M. Ry. Co. et al., supra,* the Chicago & North Western Railway Company and the Chicago,

Milwaukee & St. Paul Railway Company were not made parties to the original proceeding and therefore by supplemental order, made Feb. 7, 1914, the original order was made applicable to these carriers. On one of the shipments involved in the instant case, that of March 13, 1914, the charges should have been assessed at the rate fixed in such order. The rate applied to such shipment was therefore illegal and reparation could have been made by the respondents without authority from the Commission. The rate applied to the shipment of February 7, 1914, was the legal rate then in effect. However, in view of the determination of the Commission in the order establishing a schedule of rates applicable to such shipments, it becomes unnecessary to again consider the matter. The charge exacted on the last named shipment was unusual and exorbitant.

The charge on the shipment of February 7, 1914, was based on a rate of 10 cts. per 100 lb. on 85,200 lb., making a total charge of $85.20, and the charge assessed on the shipment of March 13, 1914, was based on the rate of 7½ cts. per 100 lb. on 84,600 lb., making a total charge of $63.45. According to the tariffs on file with the Commission the authorized distance for use in determining the rates between Waukesha and Black River Falls over the respondents' lines is 190 miles; the rate established for this distance is 4.3 cts. per 100 lb. Charges computed at the established rate on the first shipment mentioned would be $36.64 and on the other shipment mentioned would be $36.38. Consequently, on the two shipments the charge actually made and paid by the petitioner is $75.63 in excess of the reasonable charge.

It is the judgment of the Commission that the charges exacted of the petitioner by the respondent on the aforesaid shipments of ground lime stone from Waukesha to Black River Falls are unusual and exorbitant, and that the reasonable charges for such shipments should have been based on a rate of 4.3 per 100 lb.

NOW, THEREFORE, IT IS ORDERED, That the Chicago & North Western Railway Company and the Chicago, St. Paul, Minneapolis & Omaha Railway Company be and the same are hereby authorized and directed to refund to the petitioner, the Waukesha Lime & Stone Company, the said excess charge of $75.63.

JAMES CALLEN, JR., ET AL.

vs.

CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Submitted March 23, 1914. Decided June 18, 1914.

This is a rehearing in a matter decided Feb. 10, 1914, 13 W. R. C. R. 732. The respondent contends that the order issued requiring the respondent to stop its train No. 24 at Caledonia on signal to receive and discharge passengers, or, at its option, to so readjust its service that residents of Caledonia will be enabled to reach Racine and return the same day, having a reasonable amount of time at that city during business hours for the transaction of business, is unreasonable and beyond the authority of the Commission to issue. The train in question is an interstate train and the respondent alleges that it is necessary for the train to make close connections at Chicago. About 1,800 persons are tributary to the respondent's train service at Caledonia. Three northbound and two southbound trains are now stopped at Caledonia, but their schedule is such that it is impossible for residents of the locality to make the trip to Racine and return the same day, having a reasonable time for the transaction of business.

The standard of adequate passenger train service prescribed by sec. 1801 of the statutes for stations having two hundred or more inhabitants is a minimum, not a maximum, standard and if the quantity of service required thereby does not fully meet the requirements of adequacy the Commission has the power to order a rearrangement of schedule or the operation of additional trains. *Chicago, B. & Q. R. Co. v. Railroad Comm.* 1913, 152 Wis. 654; *Chicago, M. & St. P. R. Co. v. Railroad Comm.* 1914, 146 N. W. 1129.

The adequacy of passenger train service cannot be determined from the point of view of quantity alone but consideration must also be given to the schedule upon which the trains stopped are operated.

Held: The former order is reasonable and within the scope of the Commission's jurisdiction. It will therefore stand as of this date.

REHEARING.

An order was issued on February 10, 1914, (13 W. R. C. R. 732), in the above entitled matter, requiring the Chicago, Milwaukee & St. Paul Railway Company to stop its train No. 24, scheduled to leave Milwaukee at 7:30 a. m., at Caledonia on signal to receive and discharge passengers; or, at its option, to so readjust its service that residents of Caledonia will be enabled

to reach Racine and return the same day, having a reasonable amount of time at that city during business hours for the transaction of business.

Under date of February 28, 1914, the respondent petitioned for a rehearing in the matter, alleging that the order did not pass upon a question raised at the hearing, and that the respondent desired to introduce further evidence. A rehearing was therefore held at Milwaukee on March 23, 1914, at which *James Callen, Jr.*, appeared in his own behalf and *J. N. Davis* for the respondent.

The material facts as developed in the testimony at both hearings are as follows: Caledonia is a country station surrounded by a thickly settled farming community. The township of the same name has a population of approximately three thousand persons, of whom about one-fourth are tributary to the respondent's station at Caledonia, the remainder being accommodated at other stations on the respondent's line and by the other steam road and the two interurban electric lines which enter the township. The town of Raymond, which adjoins the town of Caledonia on the west, has approximately two thousand inhabitants of whom about one-half are tributary to Caledonia station. Thus it appears that while there are but few houses immediately adjacent to the station, about eighteen hundred persons are dependent upon the respondent's train service at this point. The county seat of Racine county, the city of Racine, is fifteen miles distant from Caledonia by rail, the route being by way of Corliss which is also the junction point for Burlington, Elkhorn and Janesville. Three northbound trains and two southbound trains are now stopped at Caledonia, but their schedule is such that it is impossible for residents of this locality to make a trip to Racine, Burlington, Elkhorn, Janesville, or Madison and the intervening points and return the same day, having a reasonable time for the transaction of business. It is possible, however, to reach Milwaukee from Caledonia and spend eight hours there, returning the same day.

It was estimated by a witness that from thirty to forty passengers a day board or alight from trains at Caledonia. At the second hearing the respondent introduced a record which shows that during January and February, 1914, a total of 737 tickets were sold at Caledonia, of which 188, or 39 per cent, were for Racine. Assuming that the inbound traffic is substantially the

same as the outbound, the total number of passengers boarding and alighting from trains at Caledonia during the two months would be 1,474. Eliminating Sundays, the average daily traffic would therefore approximate 29 persons.

Train No. 24, which the petitioners desire to use, is an interstate train which is scheduled to arrive in Chicago at 9:35 a. m., only 10 minutes before the Pennsylvania line train, with which it connects, leaves Chicago. The superintendent stated that it is difficult to make this connection at the present time and that additional stops would further aggravate the situation. He said that none of the other morning southbound trains can make additional stops and maintain its schedule. The statement was made that other stations on the respondent's line between Milwaukee and Chicago of equal or greater importance than Caledonia have no better train service than that accorded Caledonia. However, the only specific instance mentioned was Wadsworth, Ill., at which the company recently refused to stop train No. 24 on request of the citizens. An examination of the company's folder shows that three passenger trains in each direction are stopped at Wadsworth, making it possible for residents of that locality to spend more than five hours during business hours at Racine, or more than ten hours in Chicago, and return on the same day.

The respondent contends in its brief that the legislature has established a standard of adequate passenger train service for stations having two hundred or more inhabitants, in sec. 1801 of the statutes, thereby removing such service from the jurisdiction of the Commission. It argues further that the Commission is not justified in characterizing as inadequate for a station of less than two hundred inhabitants a quantum of service equal to, or greater than, that prescribed by the legislature for stations having more than two hundred inhabitants.

It is our understanding of sec. 1801 of the statutes that the quantity of service required thereby is a minimum which may or may not fully meet the requirements of adequacy. The Commission would not be justified in finding that fewer trains could furnish adequate service at a station within the classification, but certainly if the designated number of trains were stopped at extremely inconvenient hours, thereby rendering the service of little or no value to the residents of the locality, the Commission would have power to require a rearrangement of schedule or the

operation of additional trains. That the supreme court of Wisconsin interprets this statute as establishing a minimum standard, is clearly shown in the following language found on page 670 in *Chicago, B. & Q. R. Co. v. Railroad Comm.* 1913, 152 Wis. 654:

"It will be observed that as a basis for a minimum passenger service the population of a station and the number of passenger trains passing each way daily are made the main tests. That such tests are germane to the subject of the act can scarcely be doubted."

The station under consideration in this case does not fall within the classification which sec. 1801 of the statutes specifically covers, and its provisions are therefore not applicable to the matter in hand. This precise point has been passed upon by the supreme court of Wisconsin in the recent case of *Chicago, M. & St. P. R. Co. v. Railroad Comm.* decided May 1, 1914 (146 N. W. 1129), in which an order of the Commission requiring the establishment of a milk station was upheld, the following language being used:

"It is argued (1) that by sec. 1801 stats. (requiring that certain passenger trains stop at all villages of two hundred inhabitants) the legislature has taken the subject of the stopping of passenger trains away from the jurisdiction of the Commission; and (2) that the order is so unreasonable that the court should condemn it.

"Neither claim can be sustained. Sec. 1801 does not attempt to interfere with the powers of the Commission except in cases which it specifically covers, and this is not one of them."

The case before us must therefore be decided upon its merits without reference to the statute cited by counsel.

The adequacy of passenger train service cannot be determined from the point of view of quantity alone. It is essential that a proper number of trains be stopped at a station, but it is more important that the schedule be such as to render travel reasonably convenient. An excess of trains, operated at inconvenient hours, may result in a service which is entirely inadequate as to quality. At Caledonia three northbound trains and two southbound trains are stopped. If these trains were conveniently arranged the service would be ample, but such is not the case. There is no morning train south and the latest train north leaves

Racine at 1:50 p. m. As a consequence of this arrangement, residents of the locality cannot reach their county seat and other points to the south and west and return the same day, having a sufficient time for the transaction of business. This is a consideration of importance in determining the reasonable adequacy of service, as pointed out in *Chicago, B. & Q. R. Co. v. Railroad Comm.* above referred to, on page 671:

"Under the passenger train schedule in force at Cochrane, it renders it practically impossible for its residents to go either north or south to nearby towns, transact business, and return the same day. This situation affects their convenience, and, as has been shown, that is a consideration of some importance in determining the reasonable adequacy of service."

The respondent has emphasized the necessity of train No. 24 making close connection with a train on the Pennsylvania lines at Chicago. It should be noted that the order issued in this matter allowed the company the option of stopping this train or so readjusting its schedules as to furnish adequate southbound service. Inasmuch as seven southbound trains are regularly operated during the morning, it must be possible to discover some method of giving this station morning service without seriously interfering with the efficiency of through trains. Or, if it is deemed preferable, a northbound train might be stopped late in the afternoon or in the evening, thus enabling residents of Caledonia to reach Racine for business purposes and return the same day. This arrangement would be less convenient than the stopping of a morning train, but would satisfy the complaint in a large measure. It is the purpose of the Commission to allow as wide latitude as possible to the company in arranging its schedules, and the stopping of train No. 24 was suggested in the order as being probably the most practicable solution of the difficulty.

Having fully considered the additional testimony offered at the second hearing, and the argument of counsel, we are convinced that our former order is reasonable and within the scope of the Commission's jurisdiction. It will therefore stand as of this date.

IN RE APPLICATION OF THE ELEVA FARMERS TELEPHONE COMPANY FOR AUTHORITY TO INCREASE RATES.

Submitted April 11, 1914. Decided June 20, 1914.

Two proceedings are involved in this case: (1) certain stockholders of the Eleva Farmers Tel. Co. complain that the rates charged by the company are inadequate and that stockholders are discriminated against in that they are required to pay the same rentals as other patrons and in addition contribute to cover the deficits from operation; and (2) the utility itself applies for authority to increase its rates. The value of the property, the revenues and the expenses were investigated.

Held: The present rates are insufficient. The utility is authorized to put into effect on July 1, 1914, the schedule of rates applied for as modified by the Commission.

The adequacy of the rates of the Eleva Farmers Telephone Company is before the Commission in two proceedings, the first being an investigation on the motion of the Commission and the second being the application of the company itself for authority to increase rates. To economize time and space the two proceedings will be dealth with in one decision.

The investigation on motion of the Commission was instituted as a result of a complaint brought by several stockholders of the company in which it was alleged in general that the rates charged were inadequate to meet the requirements of the company; that the past year's operation showed a deficit of $100; that the stockholders were discriminated against in that they paid the same rentals as other patrons and were obliged to contribute to cover the deficits from operation; that the service was not good; and that an increase in rates of $2 a year was essential to the company's welfare.

A hearing was held at the Commission's offices in Madison on April 11, 1914. *J. A. Nelson,* president of the company, and *John Tollefson,* vicepresident, appeared for the company. There were no appearances for the complaining stockholders.

The schedule of gross rates of which complaint is made is as follows:

$10 per year for rural and two party residence phones.
$13 per year for business and single party residence phones.
A discount of 25 cts. per quarter is allowed if payment is made in advance.

At the hearing it developed that the rates were admittedly inadequate to pay operating expenses, keep up repairs, and set aside a fund for depreciation, to say nothing of providing satisfactory service. Subsequent to the hearing the company itself filed an application for authority to increase its rates to the following schedule:

$12 per year for rural or three-party residence phones.
$15 per year for single party residence phones.
$18 per year for business phones.
Bills to be paid quarterly with a discount of 25 cts. per quarter if paid in advance.

The cost of the property and plant involved in this case is given at the close of the fiscal year as $6,883.62. The report of the company to the Commission made June 31, 1913, shows that there were 272 subscribers, 112 miles of pole line and 195 miles of wire line at that date. According to the report the cost per substation is, therefore, about $25.30, per mile of pole line $61.40, and per mile of wire line $35.30. At the hearing it was testified that the actual cost of the property was in the neighborhood of the capitalized value, or about $8,000. This would give a cost per substation of $29.40, per mile of pole line of $71.40, and per mile of wire line of $41.00. An investigation of the costs of construction of other plants comparable to the one under consideration shows that the costs per unit here given are exceedingly conservative. The strong probability is that the figure testified to at the hearing more nearly represents the actual amount of the investment than does the reported cost of property and plant.

It was testified at the hearing that the total earnings from subscribers for the calendar year 1913 amounted to $2,143.00 and that the total expenditure for the same period was $2,712.15. Of this latter amount a small part was expended for new property and a portion for renewals. The amount expended for these purposes was estimated at about $600.00, thus indicating that the operating expenses were in the neighborhood of $2,112.15. This appears to be a reasonably normal figure. There would therefore appear to be a small deficit from operation during the calendar year 1913, and it is apparent that there cannot be enough return from the present rates to adequately provide for the upkeep of the property and depreciation. Un-

der these conditions resort must be had to assessments of stockholders, a necessity that is inherently undesirable and unjust, particularly when part of the subscribers are not stockholders.

If the rates asked for in the application be authorized, with the modification that a new rate of $12 per year for two-party residence service be added, the results from operation, based on the service data given in the 1913 report, would appear as follows:

ELEVA FARMERS TELEPHONE COMPANY.

ESTIMATED EARNINGS.

Character of phone.	Number of phones.	Proposed rate, net.	Return.
Business:			
One party	18	$17	$306
Residence:			
One party	10	14	140
Two party	8	12	96
Three party	6	11	66
Res. on farm lines	3	11	33
Rural:			
Farm subscribers	227	11	2,497
Total			$3,138

Without allowing for an increase in operating expenses, the surplus from operation resulting under these rates would amount to $1,026.00, an amount scarcely sufficient to provide for a depreciation reserve computed at 6½ per cent on the cost of the property and a return on the investment of 7 per cent. If there result any increase in operating expenses such as normally may be expected, and if the company provide for depreciation according to the dictates of sound business management, there will probably be a slight surplus remaining for return. The situation, therefore, while not being all that could be desired from the stockholders' standpoint, will not be such as can be complained of by subscribers in general.

IT IS THEREFORE ORDERED, That the Eleva Farmers Telephone Company be and the same hereby is authorized to abandon its present rates and substitute therefor the following schedule:

Gross Rates—

$18 per year for business phones.

$15 per year for single-party residence phones.

$13 per year for two-party residence phones.

$12 per year for rural or three-party residence phones.

Bills to be paid quarterly on the first day of each quarter with a discount of 25 cents per quarter if paid in advance.

These rates may be placed in effect July 1, 1914.

IN RE APPLICATION OF THE RICHLAND CENTER ELECTRIC LIGHT AND WATER PLANT FOR AUTHORITY TO INCREASE RATES.

Submitted May 8, 1914. Decided June 20, 1914.

The Richland Center El. Lt. & W. Plant applies for authority to establish a minimum charge and a specified schedule of rates for electric current used for power purposes. The utility also desires that the Commission establish rates for electric lighting and water consumers located outside the city limits. The power rates applied for were authorized previously upon informal presentation of the case. A tentative schedule for water service outside the city was also suggested in answer to an informal request.

Consumers of a municipally owned utility who are located outside the limits of the municipality stand in much the same relation to the utility as they would if it were a private enterprise and so long as the rate charged them is fair they cannot complain of discrimination against them merely because that rate is slightly higher than the rate charged residents of the municipality.

Held: The relief sought should be granted. The utility is authorized to put into effect: (1) a minimum charge of 25 cts. per h. p. per month for electric power consumers; (2) the rates specified in the application for current purchased for power purposes; (3) a specified charge for electric lighting service to consumers outside of the city limits; and (4) a specified schedule of charges for water service to consumers outside of the city limits.

This application was filed with the Commission February 24, 1914. In its original form it sought authority to establish a minimum charge for current for power purposes of 25 cts. per horse power per month and a graduated scale of rates for power as follows:

First	200 kw-hr.	8 cts. per kw-hr.
Next	100 kw-hr.	7 cts. per kw-hr.
Next	100 kw-hr.	6 cts. per kw-hr.
All above	400 kw-hr.	5 cts. per kw-hr.

Subsequently there arose a difference of opinion between the common council and certain consumers relative to the fairness of an extra charge for both water and light furnished to consumers located outside of the corporate limits. This matter was submitted to the Commission informally and the city was

authorized to establish certain rates. It appears, however, that these rates were not put into effect, and the matter arising again in the hearing on the present application, it may properly be dealt with finally in this opinion.

A hearing was held at the office of the Commission in Madison on May 8, 1914, in which the several matters affecting this company at the present time were inquired into. At the hearing *C. H. Strang* appeared for the applicant. There were no appearances in opposition.

It was developed in the testimony that there were four particulars upon which an order of the Commission was desired. The questions to be determined relate: (1) to the establishment of a minimum bill for power; (2) the establishment of a sliding scale as proposed; (3) the rate to be charged for lighting to consumers outside the city; and (4) the rate to be charged for water to consumers outside the city.

The reasonableness of a carefully adjusted minimum charge, to cover certain fixed expenses of furnishing service, has been fully explained in other decisions, and no repetition of the arguments is necessary. This practice of charging a minimum is very general in the electric business and in the present case the amount suggested by the utility as a proper minimum is evidently very conservative. It is our opinion that it should be acceptable to the users of current.

With reference to the graduated scale of charges for power, this feature of the case was submitted to the Commission informally at a previous time and authority was given to the company to place the proposed schedule in effect. There seems to be no question raised in the present proceeding as to the fairness of the schedule, but inasmuch as the subject was associated with the question of the minimum bill, for which formal authority was necessary, it was included in the application in connection with the request for authority to establish the minimum bill. The schedule was in effect a general reduction of charges for current for power purposes, and appears to be fair and equitable.

The question relating to charge for current for lighting furnished to consumers outside of the city limits was discussed at some length in the hearing. The contention was made that customers outside of the city have no just complaint if they are charged a somewhat higher rate than the taxpayers in the city,

so long as the rate they are charged is a fair one as between them and the owners of the plant. The argument is a difficult one to meet. Municipal public utilities are established by reason of the desire of the inhabitants of a municipality to furnish for themselves the convenience and comforts of those public services offered. They are not generally entered into as an enterprise of gain to the city. Indeed, there might arise a troublesome legal question of power to so act if a city undertook any purely commercial business. But when a municipality establishes an electric light plant in order to supply its inhabitants with the conveniences arising therefrom, common sense and good business judgment allow that it should sell its surplus product, if possible, rather than waste it. If to dispose of as much of its product as possible it ventures beyond the limits of the city, the residents in the region thus entered are in about the same position as would be theirs if they were dealing with an entirely private enterprise. In fact, as to those consumers the furnishing of current by the nearby city is virtually a private enterprise. It seems, therefore, that so long as the rate charged them is fair they cannot complain of discrimination against them because they are charged a slightly higher rate than the residents of the city. Aside from this view of the situation, there are certain reasons why it might be practicable for the city to afford service to persons living within its jurisdiction at a slightly lower rate than it furnishes service to outsiders. We need mention only the additional leverage it has in the matter of the collection of bills from householders on its tax rolls. The analysis of the position of the outside consumer given above seems sufficient, however, to make clear the justice to both city and nonresident of a higher charge to nonresident consumers in certain cases, providing the difference in charges is not disproportionate to the elements which make such a difference proper.

In this case the city is charging a rate of 10 cts. per kw-hr. to residents and seeks to charge 11 cts. per kw-hr. to nonresidents. It appears to us that the rate sought to be established is proper, in view of all the circumstances.

At a previous time the question of a schedule for water service outside of the city was submitted to the Commission in an informal way and a tentative schedule was suggested, as follows:

Minimum charge: $2.50 for each 6 months.
First 22,500 gals. used in 6 mos. per M 25 cts.
All over 22,500 gals. used in 6 mos. per M 15 cts.

The matter was gone into at some length at the time the above schedule was authorized, so that no further analysis of costs seems necessary now.

IT IS THEREFORE ORDERED, That the Richland Center Electric Light and Water Plant be and it hereby is authorized:

1. To place in effect a minimum bill for power consumers, said minimum charge to be 25 cts. per horse power per month.

2. To establish in lieu of the present rate the following graduated scale of rates for current purchased for power purposes:

First	200 kw-hr. per month used	8 cts. per kw-hr.
Next	100 kw-hr. per month used	7 cts. per kw-hr.
Next	100 kw-hr. per month used	6 cts. per kw-hr.
All above	400 kw-hr. per month used	5 cts. per kw-hr.

3. To discontinue its present rate for lighting to consumers outside of the city limits and substitute therefor a charge of 11 cts. per kw-hr. consumed.

4. To establish for water service to consumers outside of the city limits the following schedule of charges:

Minimum charge $2.50 for each 6 months.
First 22,500 gals. used in 6 mos. per M 25 cts.
All over 22,500 gals. used in 6 mos. per M 15 cts.

IN RE APPLICATION OF THE COLOMA TELEPHONE COMPANY FOR AUTHORITY TO INCREASE ITS RATES.

Submitted May 20, 1914. Decided June 20, 1914.

The Coloma Tel. Co. applies for authority to increase its rates. The value of the property, the revenues and the expenses were investigated. Because of defective accounts it is impossible to accurately determine the cost of service.

Held: The present rates are insufficient. The rates applied for, however, appear to be higher than necessary. The utility is authorized to put into effect on July 1, 1914, if it chooses, specified rates which represent an increase over the present rates though not the full increase desired by the utility. Further revision of rates may be made if the experience of the utility, with a proper set of accounts, shows the necessity.

The Coloma Telephone Company applies, under date of February 16, 1914, for authority to increase its rates. The application states the present schedule to be $10 per annum or $1 per month, and asks authority to increase the rates to $12 per annum or $1.25 per month.

A hearing was held at the office of the Commission in Madison on May 20, 1914. *F. W. Potts* appeared for the applicant. There were no appearances to contest the application.

At the hearing it developed that the reason the increase was desired was to offset the increase in operating expenses due to the advance in wages, increase in taxes, payment of industrial insurance and general higher cost of materials. It was stated that the increased cost of operating the system was reflected in the report to the Commission for the fiscal year 1913 with the exception of the item of industrial insurance, which amounted to $75 with the pay roll as it is constituted at present.

The data at hand upon which to base computations to ascertain the fairness of the applicant's request are exceedingly meager and unsatisfactory. The financial report for the year 1912 contains practically nothing upon which we may rely. The report for 1913, while fairly complete as to income account, shows a balance sheet that must be scanned with care before accepting its figures as accurate. In the report as originally sub-

mitted by the company the cost of property and plant at the beginning of the year was given as $9,984.02, while no details of this item were given in the table of the report designed to show the elements that make up that item. From an inspection of the report of the preceding year it was evident that the figure for 1913 represented simply the total assets as shown in the balance sheet for the year before, brought forward as the first item in the balance sheet for the year 1913. Request being made for the details of the figure, a revised balance sheet was submitted which showed total assets of $4,820, or an amount equivalent to the sum of the outstanding capital stock and the notes and bills payable as shown on the opposite side of the balance sheet. The cost of property and plant at the beginning of the year was given as $2,444.24, an amount less than that shown for the same item in the previous year's balance sheet. The uncertainty thus manifested as to the actual cost of the plant, coupled with the very evident inadequacy of the figure last shown to cover the entire cost of a system of the size of the one under consideration, throws such doubt upon the balance sheet as submitted as to render it of little practical use in determining a fair value of the property.

It is likely, however, that the figure shown in the 1913 report, as originally submitted, represents approximately the investment in the property involved in this case. In that report the cost of property and plant at the close of the year is shown as $11,402.52. From an investigation of the value of other properties of similar size and similarly located and equipped we conclude that this figure is more reasonably acceptable as representing the actual investment in this propety than the one given in the revised balance sheet. In the interest of conservation, however, for the purpose of the computations in the case it may be well to adopt a figure somewhat lower than the one indicated as representing the value. The error either way would not be great if we regard $11,000 as a fair approximation of the amount invested.

Although the accounting methods and results of the company are not of the best, a general inspection of the expense items discloses nothing seriously abnormal about them. It may be safely assumed that they fairly show the actual cost of operating the system. It was stated at the hearing that the item of industrial insurance that the company is now required to pay

amounted to $75. This amount has been included in the computations to determine the requirements of the plant.

The total earnings are shown to be $3,136.77. Of this amount $2,062.66 is consumed by the operating costs, including taxes amounting to $81.92, and the industrial insurance already mentioned. There is left the sum of $1,124.11 from which to provide a sufficient fund to meet depreciation and to pay interest charges. Computing depreciation at 6½ per cent, a normal rate for plants of this character, and estimating the interest at 7 per cent on the investment, we find that the earnings are insufficient to meet all the burdens of operation, taxes, depreciation and interest, by the sum of $360.89. If we now increase the total earnings by a sum equal to the increase that would result were the rates of the company placed at $12 per annum, the gross earnings appear as $3,846.77. The deduction from this amount of the operating expenses, taxes, depreciation and interest used above leaves a surplus of $299.11.

From such facts as are available, therefore, it appears that the rate asked for by the company is somewhat higher than is necessary to carry on the business and provide an adequate return upon the property. In view of these conditions it appears equitable to authorize a partial increase in the present rate. An increase to $11.00 per year in cases where the charge for telephone service is paid in advance, and to $1.10 per month when the service is paid for monthly would appear to be as large an increase as is required by such facts as are available in this case. This does not mean that it is the judgment of the Commission that $11.00 per year will fully cover all costs of adequate telephone service. In view of the defective reports which the utility has made, however, it does not seem that we should go beyond the rate mentioned. When the utility has its accounts in proper shape we will be in position to determine accurately the cost of service, and if further increase should be made, the necessity for such increase will be disclosed by the records of the utility. Until such time as the accounts are properly kept, however, it would be almost an impossibility to state accurately what the cost of service amounts to, and we do not feel that an increase beyond the amounts mentioned should be authorized until the cost can be fully known. The Commission will be ready to extend necessary assistance in putting the accounts of this company on an adequate basis and in furnishing all neces-

sary information regarding the methods of keeping the records. If the experience of the utility with a proper set of accounts shows the necessity for rates as high as those applied for in the application, there will be nothing to prevent another action at the proper time.

IT IS THEREFORE ORDERED, That the applicant in this case, the Coloma Telephone Company, be and the same hereby is authorized to discontinue its present rates for telephone service and substitute therefor the rate of $11.00 per phone per year where payment is made in advance for a full year, and a rate of $1.10 per month where payment is not made in this manner. This rate may become effective, if the company so chooses, on July 1, 1914.

C. F. RODOLF ET AL.

vs.

SOUTHERN WISCONSIN RAILWAY COMPANY.

Decided June 20, 1914.

This is a supplementary order relating to matters decided in a proceeding of the same title on May 26, 1913 (12 W. R. C. R. 49) and October 6, 1913, (12 W. R. C. R. 797) and in *Elver v. So. Wis. Ry. Co.* on Nov. 26, 1912, (11 W. R. C. R. 67). It appears that the lack of adequate double track facilities has prevented the respondent from complying with the requirements of the Commission governing the maintenance of a five minute schedule on certain portions of the street railway system in the city of Madison and has interfered with the rendering of the tripper service ordered by the Commission.

The respondent is ordered to make specified extensions of its double track facilities. Ninety days is deemed sufficient time within which to comply with this order.

On May 26, 1913, the Commission rendered a decision (12 W. R. C. R. 49) in the matter of service in the above entitled case, reserving for a later period the consideration of that part of the compaint relating to the rate of fare. On October 6, 1913, a supplementary order (12 W. R. C. R. 707) was issued correcting certain operating defects, but not otherwise materially changing the order of May 26, 1913.

On November 26, 1912, the Commission issued an order (11 W. R. C. R. 67) effective January 15, 1913, in the case of *Elmore T. Elver vs. Southern Wisconsin Railway Company.* A part of paragraph (b) of this order reads as follows: "The cars on this line [East Johnson-South Madison] shall be operated in conjunction with the cars on the Fair Oaks-Wingra Park line on such a schedule as to give a five minute headway between Capitol Park and University avenue at Mills street." Also a part of paragraph (c) of the same order reads as follows: "* * * the schedules [shall] be so arranged that cars on the West Main-Baldwin street line operating in conjunction with those on the Fair Oaks-Wingra Park line shall give a five minute headway from Capitol Park to Baldwin street or Dickinson street." It

is clearly the intent of the above order that the schedule shall be arranged and the cars operated in such a manner that the headway of cars between Capitol Park and University avenue and Mills street, and between Capital Park and Baldwin or Dickinson streets shall be five minutes.

Numerous observations have shown that this interval of five minutes between cars is not well maintained, especially during the periods of the day when traffic is heavy. Investigation has shown that one of the most serious causes of the failure to maintain this five minute schedule is due to lack of track facilities on University avenue, Mills street, Williamson street and Winnebago street. As examples of some effects of the lack of track facilities, the following are cited:

Westbound South Madison and Wingra Park cars often reach the end of the double track on Park street before the eastbound cars arrive at that point. Likewise the eastbound Fair Oaks cars often reach the end of the double track on Williamson street before the westbound cars arrive at that point. Any delay resulting at these points affects all the cars on those lines.

Furthermore, a Wingra Park car may be somewhat behind its scheduled time and late enough at Capitol Park to drop behind the South Madison car, which is scheduled to follow five minutes after this same Wingra Park car. When these cars reach the end of the double track at Park street the incoming Wingra Park car may have been met on the double track, but the inbound South Madison car not yet in sight. The single track, therefore, on the Wingra Park line between Park street and Breeze Terrace is unoccupied but the Wingra Park car cannot proceed until the South Madison car has cleared the track.

In the same manner the South Madison car is often detained unnecessarily by falling behind a Wingra Park car which is scheduled to follow it in five minutes or more.

At Williamson and Dickinson streets the eastbound Fair Oaks car often reaches the end of the double track with a Jenifer street car following close behind it. If the corresponding westbound car has not already reached this point, as is frequently the case, the Jenifer street car can not start on the return trip until the westbound car arrives, permitting the Fair Oaks car to pull out. The Jenifer street car then falls in behind the westbound Wingra Park car and the value of its services is very much reduced.

An extension of double track facilities as suggested above would minimize delays of the first type and entirely eliminate those of the second type described.

In the spring of 1913 conferences were held between members of the Commission's engineering department and representatives of the Southern Wisconsin Railway Company and it was agreed at that time that there was a distinct necessity for double track on University avenue from the present switch on Park street to some point at least as far as Mills street, and the Commission's engineers were informed that the Southern Wisconsin Railway Company had contracted with a construction company to extend the double track to some point west of Mills street and on Mills street to same point south of University avenue. It was understood that a definite date was agreed upon when this work should be commenced and that it should be completed not later than November 1, 1913.

Observations indicate that service is materially affected by the lack of double track facilities as outlined above. This lack of track facilities interferes not only with the regular schedule of five minutes, but it also interferes with the tripper service which was the subject of the order in this case dated May 26, 1913.

IT IS THEREFORE ORDERED, That the Southern Wisconsin Railway Company take such steps as may be necessary to extend its double track as described in the following paragraphs:

1. On Park street from the present double track to University avenue.
2. On University avenue from Park street to a point at or near the present crossing of the tracks of the Chicago, Milwaukee & St. Paul Railway Company with the tracks of the Southern Wisconsin Railway Company; or to a connection with the present passing track west of the Chicago Milwaukee & St. Paul Railway tracks.
3. On Mills street from University avenue to some point near West Johnson street.
4. On Williamson street, Winnebago street and Atwood avenue from the end of the double track near Dickinson street to the double track on Atwood avenue.

Ninety days is deemed sufficient time within which to comply with the terms of this order.

WACHSMUTH LUMBER COMPANY
vs.
BAYFIELD TRANSFER RAILWAY COMPANY.

Submitted May 12, 1914. Decided June 22, 1914.

The respondent applies for a rehearing of a matter decided on April 7, 1914, 14 W. R. C. R. 253, on the ground that the rates ordered discontinued were not out of harmony with rates justified by practice and by the approval of the Commission elsewhere in Wisconsin.

Held: No change should be made at this time in the order in question. The application for rehearing is denied.

This case originally came before the Commission in the form of a complaint by the Wachsmuth Lumber Company alleging that a new schedule of rates on logs issued by the Bayfield Transfer Railway Company and put into effect on January 1, 1914, was "unfair, excessive and unreasonable and out of proportion to the physical valuation of said railroad, and unjustly discriminatory against the petitioner, and excessive for the equipment of said railway company used in the operation of said railway." A hearing was held and briefs were submitted by both the petitioner and the respondent.

The rates of the respondent company which were in force prior to January 1, 1914, were $1.50 per 1,000 feet of logs, applied on single shipments, without any provision for any minimum weight or charge on all logs loaded at points on the respondent company's line; and a rate of $1.00 per 1,000 feet of logs on shipments delivered at points on respondent company's line in trains of ten cars or more, but loaded on the private lines of the petitioner.

The schedule which went into effect on January 1, 1914, was stated in cents per 100 lb., being 1.3, 1.4 and 1.5 cts. per 100 lb., for distances of 5, 10 and 15 miles, respectively, and it fixed a minimum of 45,000 lb. per car.

This increase, the petitioner held at the former hearing, amounted to nearly 75 per cent over the old rates.

After a careful consideration of the case this Commission issued an order on April 7, 1914 (14 W. R. C. R. 253), substituting for the respondent's schedule of January 1, 1914, the rates of 1.1, 1.2 and 1.3 cts., per 100 lb. for distances of 5, 10 and 15 miles, respectively, and fixing the car weight minimum at 40,000 lb. Inasmuch as the great bulk of the shipments of logs over the respondent company's line was from Sunnyside to Bayfield, a distance of less than 5¼ miles, it was ordered by the Commission that the five mile rate should be charged between those points.

These rates, while representing a substantial increase over the rate in force prior to January 1, 1914, were somewhat lower than those fixed by the respondent's new schedule against which the complaint was made. The chief difference between the rates fixed by the Commission and the respondent's schedule was due to the change of the car weight minimum from 45,000 to 40,000 lb. and the provision making the five-mile rate instead of the ten-mile rate apply on shipments from Sunnyside to Bayfield.

Not being satisfied with the Commission's ruling, the respondent company asked for a rehearing in the case. A hearing was held at Madison on May 12, 1914, at which *John Walsh* appeared for the Wachsmuth Lumber Company and *A. H. Bright* for the respondent.

The grounds for asking for a rehearing as stated by counsel for the respondent were that the rates attacked—the schedule of January 1, 1914—were "not out of harmony with the rates which had been justified in the state of Wisconsin both by practice and recognition or comment by the Commission."

The testimony and argument at the hearing of May 12, 1914, covered substantially the points brought out at the previous hearing, no new points being adduced by either side.

In making its order of April 7, 1914, the Commission suggested that the modifications in the respondent's new schedule might be found after a time not to meet fully the requirements of the situation, but that this could be determined only from a period of operation under them. Since that order went into effect the Bayfield Transfer Railway Company has not been operated more than a few weeks, the requirements of spring track repair necessitating, according to the statements of the respondent's counsel, a suspension of operation. The repairs have been

completed and the railroad company is again hauling the petitioner's logs.

In view of the brief period of operation under the new schedule ordered, and in view also of the fact that a careful reconsideration by the Commission failed to discover any new facts of importance in the case, the Commission is of the opinion that no change should be made at this time in the order of April 7, 1914. The schedule ordered at that date, therefore, will remain in force.

IT IS THEREFORE ORDERED, That the application for a rehearing in this case be and it hereby is denied.

CITY OF WATERTOWN
vs.
WATERTOWN GAS AND ELECTRIC COMPANY.

Decided June 25, 1914.

The petitioner alleges that the rates charged by the respondent for electric light and power and for gas light and fuel are excessive and asks that just and reasonable rates be established. The petitioner also applies for a certificate of public convenience and necessity authorizing it to do its own street lighting. By agreement between the parties, however, the instant proceeding is limited to the matter of street lighting; and it appears that the immediate finding should be further confined to rates for street lighting. A valuation of the property of the utility was made; the value ascertained was apportioned between street lighting and other service; and the revenues and expenses of the street lighting service were investigated.

The question of what the M. L. H. & T. Co. is entitled to charge the respondent for current for resale leads into phases of the subject which do not appear to be very material to the issue in the case.

In arriving at a fair allowance for power expenses consideration is given to the cost of securing power in several different ways, including the method now employed, which appears to be the most economical. That the public should at least share in the economy effected by the method in use seems quite clear, for it is on account of public interest and by virtue of public authority that monopoly conditions are maintained under regulation in the public utility business. But, on the other hand, it seems also to be required that those who engage in the business should receive something for effecting unusual saving in operation, for otherwise regulation will stifle that development of efficient methods and processes which competition naturally promotes.

The probable cost of operating a system of magnetite arc lamps for street lighting instead of the enclosed carbon arc lamps now in use was made a subject for testimony at the hearing and, as the city may desire to adopt this form of lighting, the cost was further investigated and a reasonable rate for the service determined. However, in the absence of definite action looking to the establishment of a magnetite system this rate is not made a part of the present order.

Held: The rate for street lighting of the type which was furnished during the year ending June 30, 1913, should be $57 per lamp per year. The respondent is ordered to furnish service at this rate on an all night, dark night schedule requiring from 3,200 to 3,400 hours of burning per year.

The rate ordered, assuming that 102 lamps are used, will reduce the total annual charge to the city for street lighting by about 14 per cent.

The city of Watertown filed a complaint with the Commission, February 12, 1913, alleging that the Watertown Gas and Electric Company's schedules of rates for electric light and power and for gas light and fuel are unreasonable, excessive and exorbitant and praying that the Commission order such rates as it may find upon due hearing and investigation to be just and reasonable.

The respondent's answer was filed on February 28, 1913. It denies that the rates are unreasonable and alleges that the rates for gas are too low and do not yield a fair and adequate return upon the amount of the investment.

On April 18, 1913, a petition was filed by the city of Watertown requesting that a certificate of public convenience and necessity be granted authorizing the petitioner to do its own street lighting.

Hearings were held on May 28 and June 13, 1913, in the city hall, Milwaukee, and on June 19, 1913, at Watertown. *G. Buchheit,* city attorney, appeared for the petitioner; *C. M. Rosecrantz,* for the respondent.

By an understanding reached at the first hearing, these proceedings were limited, at least temporarily, to the subject of street lighting. Under the circumstances, it appears that the immediate finding should be further confined to rates for street lighting. It may be desirable and proper to reach a conclusion later in the proceeding for a certificate of public convenience and necessity.

The street lighting contract became effective March 1, 1903, and is part of an electric utility franchise granted for a term of twenty years to the Watertown Electric Company, of which the respondent is successor. The agreement for street lighting was made for a period of 10 years and provided for the furnishing of "2000 candle power arc lamps, consuming 480 watts of current each" on an all night dark night schedule. The charge for service was fixed at $70 per lamp per year for the first 70 lamps and $66 for each additional lamp. The city reserved the right to establish a lighting plant of its own at the end of ten years and, by the terms of the franchise, the city was given an option to lease space for arc lighting wires on the company's poles. This municipal franchise is set aside by the Public Utilities Law and is superseded by an indeterminate permit of the

state. It is under the provisions of this act and this permit that the petitioner brings these proceedings.

The Watertown Gas and Electric Company supplies the city of Watertown with about 102 seven-ampere, series, alternating current, enclosed carbon arc lamps. Energy is furnished partly from respondent's hydro-electric plant at Watertown and partly from the substation operated by the Milwaukee Light, Heat and Traction Company in conjunction with this generating plant. The energy taken from the Milwaukee Light, Heat and Traction Company is paid for according to its standard schedule for water power current; but, prior to November, 1912, the cost of this current, as it appeared on the books of the Watertown Gas and Electric Company, was an apportioned part of the total cost of current secured from the Southern Wisconsin Power Company by the Milwaukee Light, Heat and Traction Company or The Milwaukee Electric Railway and Light Company, as the case may be.

The testimony submitted dwelt chiefly on the method of apportioning the Commission's valuation of the property and on the company's statement of expenses for street lighting and other service. A question was raised concerning what should be allowed for cost of power in view of the conditions under which current is made and purchased. These subjects will be discussed at the appropriate place.

The probable cost of operating a system of street lighting consisting of four-ampere magnetite arc lamps substituted for the lamps now in use was also made a subject for testimony; and as the city may desire to adopt this form of lighting unit, the question is brought up of what the rate for service of this kind should be. It is obvious that estimate must be resorted to in some measure in answering this question.

The conclusion in the main points at issue rests upon what should be set up as the cost of operating the street lighting portion of the business and as a fair return on the investment devoted to it. The primary measure of these factors is usually the actual cost to the utility. If the expenditures are reasonable, the cost of service usually represents more accurately than any other figures a fair rate for the service. However, the actual expenses are not always the only measure taken of what the rate should be. Such expenses must withstand investigation designed to reveal abnormal tendencies.

The Commission has submitted to the parties in this case tentative figures of operating cost as well as of the investment in property. The comments of both parties have been received and given consideration in reaching our conclusion in this matter.

INVESTMENT.

A valuation of the respondent's physical property is shown in Table I. This is the valuation as revised and submitted by the Commission's staff after conference with representatives of the petitioner and the respondent. The cost new of the electric property, Jan. 1, 1913, excluding items designated as "non-operating", is $219,126 and the present value $190,611. Non-operating property consists very largely, in this instance, of that part of the joint substation and generating station which is used by the Milwaukee Light, Heat and Traction Company for substation purposes. The property is not, in fact, non-operative but has been so described because it is not used for service furnished by respondent.

TABLE I.
REVISED VALUATION.
WATERTOWN GAS AND ELECTRIC CO.
As of Jan. 1, 1913.

Classification.	Electric.		Gas.		Total.	
	Cost new.	Present value.	Cost new.	Present value.	Cost new.	Present value.
A. Land	$35,806	$35,806	$6,000	$6,000	$41,806	$41,806
B. Transmission and distribution	52,117	34,305	58,658	51,669	110,775	85,974
C. Buildings and miscellaneous structures	18,413	16,121	10,284	8,041	28,697	24,162
D. Plant equipment	81,024	76,428	43,954	37,950	124,978	114,578
E. General equipment	1,959	1,675	3,066	2,275	5,025	3,950
Total	$189,319	$164,335	$121,962	$105,935	$311,281	$270,270
Add 12% (see note below)	22,718	19,720	14,635	12,712	37,353	32,432
Total	$212,037	$184,055	$136,597	$118,647	$348,634	$302,702
F. Paving. (Included in cost of manhole)	...	...	.....	.....	.....	.....
Total	$212,037	$184,055	$136,597	$118,647	$348,634	$302,702
H. Materials and supplies	7,089	6,556	10,801	10,326	17,890	16,882
Total	$219,126	$190,611	$147,398	$128,973	$366,524	$319,584
J. Non-operating	30,749	22,107	.....	.....	30,749	22,107
Total	$249,875	$212,718	$147,398	$128,973	$397,273	$341,691

NOTE:—Addition of 12 per cent to cover engineering, superintendence, interest during construction, contingencies, etc.

The foregoing summary erroneously includes, as operative property, the following items for an old and partly dismantled steam plant:

	Cost new.	Present value.
Power station site	$5,540	$5,540
Machinery room	2,953	2,272
Boiler "	1,103	846
Coal "	777	581
Foundations	1,120	280
Stack	1,810	1,545
Total	$13,303	$11,064

When the proper corrections to the physical valuation are made on account of the items shown above, it is found that the cost of reproducing the operative property of the electric department is $204,227 and the present value, $178,220.

The witness for the petitioner found that the portion of the plant devoted to street lighting should be valued at $28,171, which was arrived at by certain apportionments of the Commission's tentative valuation of the physical property. The same methods applied to the revised valuation would increase the value found for street lighting property. But some of the other factors upon which the witness relied are not entirely correct as they were obtained from an incomplete operating report containing apparently inaccurate statements. The differences tend to reduce the amount which should be alloted to street lighting. For instance, in determining the maximum demand or peak load on the station, the witness based his conclusion on a statement that the annual output for the year ending June 30, 1912, was 1,323,641 kw-hr. and the load factor 37 per cent. The natural conclusion was that the maximum load on the station was about 408 kw., while as a matter of fact it was more than this. The error lay in the statement of the load factor.

The Commission has divided the physical value between street lighting and other service, using the most reliable data available. The process does not differ much from that followed by the petitioner's witness and it seems unnecessary to go far in explanation. Those items of the inventory, which are used only for street lighting, are, of course, charged entirely to that service. Other items of station equipment, which are used for street lighting and other service jointly, are apportioned in accordance

with the division of the station demands. The distribution system pole line equipment is divided in proportion to the length of wire. General and miscellaneous equipment, which the petitioner's witness divided according to the ratio of kilowatts demanded, we have apportioned on an overhead basis, that is, in accord with the ratio established for other equipment as a whole after division had been made of the individual items. As a large part of material and supplies is used only for commercial purposes, this fact has been taken into account in dividing this item between street lighting and other service.

The tentative figures for the value of physical property used and useful for the present street lighting service are shown in Table II. The apportionment of the value between street lighting and commercial service is based upon the valuation shown in Table I. The value for street lighting property is therefore subject to correction because non-operative property is included. This correction reduces the cost of reproducing the street lighting property to $23,312 and the present value to $18,843.

TABLE II.

PHYSICAL VALUATION OF STREET LIGHTING EQUIPMENT.
BY APPORTIONMENT OF REVISED VALUATION
as of January 1, 1913.

Classification.	Cost new.	Present value.
A. Land	$3,223	$3,223
B. Transmission and distribution	8,743	5,220
C. Buildings and miscellaneous structures	1,657	1,451
D. Plant equipment	8,080	7,662
E. General	220	175
Total	$21,923	$17,731
Add 12%	2,630	2,128
Total	$24,553	$19,859
H. Materials and supplies	100	100
Total	$24,653	$19,959

The figures of Table II are those which were tentatively submitted to the parties to the case. Concerning these figures, the respondent states that it makes no present objection, although it feels that it is entitled to have a higher value fixed upon the property used for street lighting. The respondent claims that the overhead addition to the valuation, for engineering, superintendence, interest during construction, contingencies, etc., should be 15 per cent instead of 12 per cent, but has failed to

submit any evidence showing that 15 per cent is any closer in this instance to the proper amount than 12 per cent.

The Commission's tentative figure for the sum upon which interest and profits should be computed was placed at $23,000. This was based on the physical value set forth in Table II, the amount required for working capital and depreciation reserve, and other elements. The corrections which should be made in the figures of Table II now lead us to conclude that the investment in the present street lighting system should be fixed at $22,000.

Income Account.

The following table shows the revenues and expenses of the gas and electric utilities for the year ending June 30, 1913, and reveals the amount that was available for depreciation, interest and profits during that period:

TABLE III.
INCOME ACCOUNT.
WATERTOWN GAS AND ELECTRIC CO.
Year Ending June 30, 1913.

	Gas Department.		Electric Department.		Combined utility totals.
	Items.	Totals.	Items.	Totals.	
Operating Revenues:					
Gas:					
Commercial earnings	$32,031 71				
Industrial earnings	1,154 28				
Municipal lighting	1,860 00				
Earnings from residuals	7,444 50	$42,490 49			
Electric:					
Commercial lighting earnings			$26,950 51		
Municipal contr. " "			6,736 52		
Commercial power "			19,873 34		
Municipal " "			69 00	$53,629 37	
Total operating revenues		$42,490 49		$53,629 37	$96,119 86
Operating Expenses:					
Gas manufacture	$22,939 05				
Gas distribution	1,660 32				
Gas mun. contract lighting	833 30				
Electric power generation			$10,648 58		
Electric distribution			1,365 69		
Electric consumption			2,611 36		
Commercial	1,616 00		1,369 61		
Total direct expenses		$27,048 67		$15,365 24	
General	2,990 34		3,819 63		
Undistributed	758 81		1,042 71		
Taxes	968 04	$4,717 19	1,681 61	6,543 95	
Total of foregoing expenses		$31,765 86		$21,939 19	$53,705 05
Balance remaining		$10,724 63		$31,690 18	$42,414 81
Non-operating revenues		1,624 55		3,394 77	5,019 32
Total available for depreciation, interest and profits		$12,349 18		$35,084 95	$47,434 13

A contention having an important bearing upon the operating expenses of the electric utility as a whole was directed at the cost of power. A witness for the respondent testified that in his opinion it is not unreasonable to charge the Watertown Gas and Electric Company for hydraulic current at a higher rate than is paid by The Milwaukee Electric Railway and Light Company because of the responsibilty assumed by the latter concern in purchasing current in large quantities under an agreement which provides for a large minimum annual payment. The petitioner went to some length to establish that the respondent and the Milwaukee Light, Heat and Traction Company are one and the same concern, and to show that an agent who signed the water power contract for the Watertown Gas and Electric Company did so by direction of one who signed it for the Milwaukee Light, Heat and Traction Company.

While the point brought out by the petitioner is an interesting one, it does not appear to assume an important position in this case because it seems that the respondent does not attempt to rely upon the water power agreement as a contract. It seems that reliance is placed rather upon the reasonableness of the terms expressed in the contract. This view is developed in the testimony for the respondent where it is said that the group of properties, including The Milwaukee Electric Railway and Light Company, the Milwaukee Light, Heat and Traction Company, the Watertown Gas and Electric Company, the Racine Gas Light Company, and the Kenosha Gas and Electric Company, has been treated more or less as a large family and that the division of costs was not heretofore properly made, with the result that these companies obtained service at less than the cost of furnishing it. That was the situation, it was testified, in the case of service supplied by the traction company to the Watertown Gas and Electric Company. When this was recognized, it was thought desirable to put the Watertown Gas and Electric Company's service on a basis that would cause that concern to bear its proper portion of the cost of producing the service. This led to the consideration of abandoning the old practice of merely apportioning the charges and of giving no consideration whatever to the problems of the traction company; and, inasmuch as the Watertown Gas and Electric Company had a hydroelectric plant of its own which would produce a certain quantity of power, it was thought most equitable and fair to put that

company on the same basis as any other customer purchasing service of the traction company. This led, it is claimed, to the adoption of the contract between the Watertown Gas and Electric Company and the Milwaukee Light, Heat and Traction Company.

The question of what the Milwaukee Light, Heat and Traction Company is entitled to charge the Watertown Gas and Electric Company for current for resale leads into phases of the subject which do not appear to be very material to the issue in the case. To furnish an answer to this question would require knowledge not only of how much profit should be allowed upon the current resold to the public, but also of how the profit should be divided between the two companies. This would be an important matter if we were to consider the relative interests of the stockholders of the two companies, but insofar as the relation of the public and the respondent is concerned, this question covers considerably more ground than is necessary.

In arriving at a fair allowance for power, we have taken into consideration the cost of securing the power in several different ways, which may be enumerated as follows: (1) producing current at the Watertown hydraulic plant with steam reserve equipment at the same place; (2) producing current entirely by means of a steam plant at Watertown; (3) receiving current from the Kilbourn hydraulic plant and using a steam reserve located at Watertown; and (4) producing current at the Watertown hydraulic plant, receiving current from the Kilbourn plant and using the steam plant at Milwaukee as a reserve. Of all these methods, the last, which is the scheme now employed, appears to be the most economical, and this economy seems to be due, in large measure, to the use of the Milwaukee steam plant as a reserve for emergency. That the public should at least share in such economy seems quite clear, for it is on account of public interest and by virtue of public authority that monopoly conditions are maintained under regulation in the public utility business. But, on the other hand, it seems also to be required that those who engage in the business should receive something for effecting unusual saving in operation. Otherwise regulation will stifle that development of efficient methods and processes which competition naturally promotes. With these facts in view, we conclude that under present conditions about $15,000 should be allowed for power, in addition to fixed charges on the

Watertown generating plant. This would give a very substantial saving to the public and also a fair profit to the utility.

Attention is called to the fact that the figure shown here as an allowance for the power furnished by the respondent rests upon the value found by the Commission for the respondent's present plant as well as upon the cost of producing the power by other means. If other facts remain the same, the proposition appears quite evident that the allowance for power would have to be reduced accordingly if the investment value determined by the Commission were increased, or vice versa.

Apportionment of Expenses.

The operating expenses, exclusive of depreciation, are divided in Table V, below, between commercial and street lighting service. It should be pointed out, perhaps, that the allowance of $15,000 for power is not the amount that should appear on the books as an operating expense because it includes also a part of profit. But for the purpose of determining the rates, it is more convenient, in this instance, to deal with this element of profit in this way than to treat it as an addition to operating expenses further on. Non-operating revenues also are divided in Table V between the two major classes of the business in order to show the amount of the net expense.

TABLE V.

TENTATIVE APPORTIONMENT OF OPERATING EXPENSES.

ELECTRIC DEPARTMENT.

Year Ending June 30, 1913.

	Total.	Commercial.	Municipal.
Power	$15,000 00	$13,445 25	$1,554 75
Distribution			
Meter & transformer expense	273 45	273 45	.....
Oper. & maintenance of distribution system.	1,092 24	797 34	294 90
Consumption			
Commercial	1,433 47	1,433 47	.....
Municipal	577 89	.....	577 89
Commercial			
Promotion of business	934 52	934 52	.....
Collection of meters	435 09	435 09	.....
Total of above	$19,746 66	$17,319 12	$2,427 54
General	3,819 63	3,349 82	469 81
Undistributed	1,042 71	914 46	128 25
Total above	$24,609 00	$21,583 40	$3,025 60
Taxes	1,681 61	1,505 04	176 57
Total of foregoing expenses	$26,290 61	$23,088 44	$3,202 17
Non-operating revenues	779 97	684 03	95 94
Net expenses	$25,510 64	$22,404 41	$3,106 23

The foregoing division of costs places the net operating expenses, exclusive of depreciation, at $22,404.41 for commercial service and $3,106.23 for street lighting. As the charge for street lighting is the particular issue in this case, attention now will be confined more exclusively to this phase of the business.

The street lighting figures of the Commission's tentative apportionment of the operating expenses, Table V, were shown informally to the petitioner and the respondent as a means of threshing out the differences of opinion that existed on the subject. After seeing the tentative figures, the respondent claimed that the allowance for taxes, $167.57, is too low because the taxes for the property as a whole increased very much since the period considered by the Commission. During the year ending June 30, 1913, the respondent charged to operating expenses, on account of taxes, $968.04 for the gas department and $1,681.61 for the electric department. The total of these is $2,649.65. The respondent reported that the taxes paid for the year 1913 were $1,745.00 for the gas department and $3,850.86 for the electric department. The total is $5,595.86. Using the ratio of value of operative property to value the total property as a factor for apportioning taxes, the respondent charged $3,710.00 of the $3,850.86 to commercial and municipal business. Then, in order to find how much of the taxes is chargeable to street lighting service, the respondent determined that the ratio of the gross earnings from municipal contract lighting to the total gross earnings of the electric department is 12 per cent and the ratio of investment in equipment for street lighting to the total investment in operative electric equipment is 11.62 per cent. On the basis of the smaller figure, it was found that taxes amounting to $432 are chargeable to municipal contract lighting service.

It is clearly evident that some consideration should be given to the increase in taxes in fixing rates for service. Otherwise, the revenue from operation would be insufficient to meet the expense of running the plant. However, the fact that various items of expense fluctuate from year to year and that some are high when others are low must not be lost sight of. That this is true is substantiated by the following figures for the respondent's business:

TABLE VI.

COMPARATIVE UNIT EXPENSES.

Year ending June 30	Operation and maintenance of distribution system per mile of wire.	Municipal contract lighting consumption expense per lamp.	General and undistributed expenses per kw-hr.	Taxes per kw-hr.
1910	$18 20	$5 56	$0.00348	$0.00072
1911	8 55	5 76	.00404	.00127
1912	9 12	4 72	.00430	.00111
1913	12 27	5 66	.00320	.00095

DEPRECIATION.

The petitioner's witness stated that in his computations he allowed for depreciation 4 per cent of the depreciable property used for street lighting and that on this basis the annual reserve is $597. It was not shown definitely how the 4 per cent was made up, although the life in years or the rate of depreciation in per cent was stated for several items. This testimony seemed to show that the witness had in mind a straight line basis for computing depreciation. If this is the case, the life corresponding to the rate of depreciation allowed for the station building must be about two hundred years. The life estimated by the witness for plant equipment was twenty years. These estimates are hardly consistent. Although a substantial building considered as a mere physical mass may last for many years, its usefulness as a housing for machinery might be terminated much sooner on account of rapid changes in the methods of producing current. Two and sometimes three complete changes in the equipment may take place within the same building if the original structure be ample in proportions and substantial in design, but actual experience data do not show that the usefulness of a station building is often protracted much longer.

No allowance was made by the witness for depreciation of the dam but he claimed that his estimates for other items of property were ample to cover it all. A proper course would be to make a separate allowance for depreciation of the dam if any allowance appears in good judgment to be required for this purpose.

The respondent claims that the allowance for depreciation should be at least 5 per cent of the value of the physical prop-

erty. This would hardly cover the depreciation based on an indeterminate permit, it is said, and would leave nothing for amortization of special equipment on a ten year contract basis. In support of its contention, the respondent submits the following analysis of the depreciation reserve required for the several groups of equipment:

TABLE VII.

RESPONDENT'S ANALYSIS OF DEPRECIATION ALLOWANCE.

	Amount.	Life years.	Rate depreciation.	Amount depreciation per year.
1. Land	$3,223			
2. Transmission and distribution	8,473	15	6.66%	$582 00
3. Buildings and miscellaneous structures	1,657	40	2.50%	41 50
4. Plant equipment	8,080	20	5.00%	404 00
5. General equipment	1,220	15	6.66%	81 30
Total	**$21,923			$1,108 80
Add 12 per cent	2,630			127 30
Total	$24,553			*$1,236 10
6. Supplies	100			
Grand total	$24,653			

* A yearly depreciation of $1,236.10 = 5.02% of the investment of $24,653.
** Error in respondent's table. Total should be $22,923.

A composite rate of depreciation for the street lighting portion of the plant has been computed by the Commission on straight line and sinking fund bases. In the straight line method, it is assumed that the depreciation reserve fund would earn nothing during the period of accumulation, while in the sinking fund method used in these computations it is assumed that the fund would earn 2 per cent per year. The analysis takes into consideration for each item of equipment its cost new, life in years, and scrap value. The final results show that the amount that should be reserved for depreciation on the straight line basis is $1,015 or 4.35 per cent of the cost of reproducing the physical property and, on a 2 per cent sinking fund basis, $852 or 3.66 per cent.

It is difficult for several reasons to make comparison of the respondent's and the Commission's figures for depreciation. It is said that the respondent's figures, which show the estimated life of equipment, take into consideration the scrap value of equipment, although the scrap value is not actually shown in the table, and that the estimated life would be represented by lower

figures if separate allowance were made for scrap value. The Commission's computations, on the other hand, make separate allowance for scrap value. Then, also, the respondent's analysis of depreciation shows one estimated life for all of the equipment of each group of the valuation, while the Commission's analysis is made up of a grouping of the items of equipment that have the same estimated life.

Before passing from this subject, mention should be made of the fact that about 42 per cent of "Plant equipment," item 4 of Table III, is cost of dam. For all of this item the respondent allowed a life of twenty years. If a longer life had been estimated for the dam, the respondent probably would have found a lower rate of depreciation for the plant as a whole.

Interest and Profits.

The Commission's tentative figures showed interest and profits computed at both 7 per cent and 8 per cent of the investment. The respondent claims that it is entitled to earn a return of 8 per cent because the overhead allowance in the physical valuation is only 12 per cent and because proper allowance has not been made for the increased cost due to the extreme piece-meal construction of this system. As the petitioner points out, these contentions have not been substantiated. Concerning the matter of interest and profits, the petitioner argues that it is not unreasonable to restrict the earnings of the Watertown Gas and Electric Company to a 7 per cent return on the investment because former earnings have been largely in excess of an 8 per cent return. At 7 per cent, interest and profits on the investment determined above for street lighting would be $1,540 per year, and at 8 per cent, $1,760.

Total Cost of Street Lighting.

Tentative figures of operating expenses for the electric street lighting service supplied to the city of Watertown during the year ending June 30, 1913, are shown in Table V. Depreciation, interest and profits are also stated above. Using the tentative figures for operating expenses as set forth in Table V, the total cost amounts to $5,498, or $53.90 per lamp, if depreciation is provided for on a 2 per cent sinking fund basis and interest and profits are allowed at 7 per cent; but with depreciation on

the straight line basis and interest and profits at 8 per cent, the total cost is $5,881, or $57.66 per lamp. Further facts bearing on taxes and other expenses have been brought out in the arguments of the respondent and the petitioner and in the foregoing discussion. Considering the additional facts also and the various circumstances appearing in this case, it must be concluded that the rate for street lighting of the type which was furnished during the year ending June 30, 1913, should be $57 per lamp per year. Assuming that 102 lamps would be used, the total annual charge would be $5,814, which is $923, or about 14 per cent, less than the amount paid during the year ending June 30, 1913.

Magnetite or Luminous Arc Lamp System.

Some difference of opinion was expressed at the hearings regarding whether it would be better to install magnetite lamps of one manufacturer or of another in case the old lamps should be replaced by new ones. The difference of opinion was related to the cost of operation and the quality of service. There appears to be some ground for the testimony introduced on both sides of the question. But, because of the peculiar character of this subject, we believe that it is better to leave the question unanswered at this time. The rights of no one will be affected by our doing so. Within reasonable limits, the utility should be permitted to exercise its own judgment in the selection of equipment and in the operation of it because upon the utility falls the obligation of rendering safe and adequate service. On the other hand, it appears that the city has a reasonable right to select the kind of equipment that it desires to use upon its streets for lighting purposes.

The tentative estimate of the cost of supplying service, using magnetite lamps, rests to some extent upon the costs that were found for the system of street lamps now in use in Watertown, but dependence on other data also is necessary to some degree. Table VIII shows the estimated operating expenses for magnetite lamps. It was assumed that the number of lamps and the burning schedule would not be different than for the present system.

TABLE VIII.

TENTATIVE ESTIMATE OF ANNUAL STREET LIGHTING EXPENSES. FOR MAGNETITE ARC LAMPS.

	Total for 102 lamps	Per lamp.
Power	$987 82	$9 67
Distribution	294 90	2 88
Consumption	795 60	7 80
Total of foregoing	$2,078 32	$20 35
General	409 00	4 01
Undistributed	112 00	1 10
Taxes	190 00	1 86
Total of foregoing	$2,789 32	$27 32
Deduct part of non-operating revenues	84 00	82
Total net expenses	$2,705 32	$26 50

The foregoing estimate shows that the total net expense, exclusive of depreciation, interest and profits, would be about $2,705 per year.

The petitioner's witness claimed that the cost of power for the magnetite system would amount to $7.13 per lamp. This is based on the assumption that each lamp consumes 280 watts and that the burning schedule is 2,800 hours per year. It also rests on the expenses shown for power in the company's annual report for the year ending June 30, 1912.

The respondent obtained a cost of power amounting to $10.97 per lamp, by assuming 310 watts as the consumption per lamp, 3,200 hours as the burning schedule and 0.972 cts. per kw-hr. as the average cost. Losses in converting and distributing the energy were also considered. The cost of 0.972 cts. per kw-hr. was found by the respondent by dividing the Commission's tentative figure of $15,000 by 1,544,900 kw-hr. which is the total output of the station for the year ending June 30, 1913.

The Commission's tentative figure for cost of power for magnetite lamps at Watertown is $9.67 per lamp. The annual consumption of energy was arrived at by assuming that the lamps require 310 watts each. It appears that the petitioner's claim that there is a lamp of this type on the market which requires less than 310 watts should be given some consideration. A claim was made that the illuminating power of these lamps is lower and that the cost of maintaining and operating them is greater than for a lamp of this type made by another manufacturer. The

evidence submitted on these points is not conclusive enough for a definite statement to be made in the matter. The cost per kw-hr. which was employed in reaching the figure of $9.67 per lamp was 0.78 cts. This is the average cost per kw-hr. for the present street lighting service instead of the average for the entire electric business of the company. It seems proper to use the former figure because the load factor for street lighting output differs from the load factor for the total output of the plant.

There is little or no reason to suppose that the distribution system expense, which depends very much on the extent of the wire and pole lines, would be materially modified by changing the kind of arc lamps. Therefore, for the purpose of estimate, this expense is placed at the amount charged to street lighting for the year ending June 30, 1913. The respondent does not object to this but the witness for the petitioner found a lower cost. The low figure determined by the witness for distribution system maintenance and operation is attributable to his use of the 1912 expenses as a basis for his conclusion. Reference to Table VI reveals the fact that during the year ending June 30, 1912, the expense of distribution system maintenance and operation was low. The figures used by the Commission for the year ending June 30, 1913, are neither the highest nor the lowest during a period of several years.

The consumption expenses for magnetite arc lamps were placed, in Table VIII, at $7.80 per lamp. The witness for the petitioner placed these expenses at $4.81 per lamp. This low figure rests on a burning schedule of 2,800 hours and a life of electrodes of 250 hours. The witness claimed that the allowance for trimming and inspecting should be 81 cts. and for maintenance 42 cts. per lamp. These amounts appear to be rather meager. The respondent thought that the Commission's figure of $7.80 was made up as follows:

Electrodes	$1.50	per year
Trimming	1.50	"
Reflectors and glassware	.50	"
Lamp repairs	.80	"
Tube renewals	3.50	"
Total	$7.80	"

The respondent states that it has no objection to any of the items except the item of "Trimming" and that, although the allowance of $1.50 per lamp per year for this item is sometimes

sufficient for a very large system involving several thousand lamps, it is not enough for this system. In support of this contention, the following data were submitted:

TABLE IX.

RESPONDENT'S DATA FOR TRIMMING, PATROLLING AND REPAIRING STREET LAMPS.

	October.		November.		December.	
	No. of hours.	Per cent.	No. of hours.	Per cent.	No. of hours.	Per cent.
Electric:						
Trimming and patrolling arcs	87	30	96	34	100	38
Repairing arcs	30	11	55	19	21	8
Miscellaneous general arc system work	20	7	.....	.....	.....	.....
Total electric	137	48	151	53	121	46
Gas:						
Lighting and extinguishing gas lamps	124	43	120	42	120	46
Inspecting and cleaning gas lamps	17	6	.....	.....	.....	.....
Washing globes and repairing mantels	6	2	13	5	21	8
Miscellaneous work on gas lamps	2	1	.....	.....	.....	.....
Total gas	149	52	133	47	141	54

Average per cent time on "Electric" 49%
Average per cent time on "Gas" 51%

The trimmer is hired by the month at the rate of $65 or $780 per year and it will be noted that it is sometimes necessary to put in as high as 286 hours per month in connection with the two systems.

The respondent concluded from the foregoing data that it is logical to charge 50 per cent of the trimmer's time against the electric street lighting system and, assuming that the same trimmer will be able to care for an installation of approximately 130 magnetite arc lamps, that the cost per lamp would be $3.00 per year. After deducting 50 cts. on account of repairs, it was found that the bare cost of trimming and patrolling would be $2.50. This is the amount claimed in place of $1.50.

The assumption that the Commission's tentative figure of $7.80 per lamp for consumption expenses consists of the component parts shown above, is not entirely correct. The assumption may have been based upon figures used by the Commission in another and different matter. The figure used by the Commission in this case for trimming and patrolling is $2.25 per lamp per year. This is based on an estimate of the amount of labor required for an entire year, while the respondent's data are only for three dark months of the year. The respondent is of the opinion that

the reduction in the amount of time required in the summer would not be sufficient to materially reduce the charges against street lighting during that time. But the following figures of burning hours taken from the records of the utility show considerable monthly variation in the length of time the lamps are burned, so that it is evident that considerable variation must occur in the time required to trim the lamps.

TABLE X.

SUMMARY OF BURNING HOURS.

WATERTOWN GAS AND ELECTRIC CO.

Date.	Burning hours.	Date.	Burning hours.
1912.		1913.	
August	233.40		
September	281.56	March	301.32
October	293.31	April	240.13
November	319.35	May	248.33
December	335.38	June	209.17
1913.		July	220.15
January	371.21	Total	3,382.18
February	326.47		

Although it may be unreasonable to assume that all of the trimmer's time which is not actually devoted to work on the street lighting system could be employed for some other useful purpose, nevertheless it appears that at least some of the spare time which the data of Table X indicate exists during the summer could be used for and charged to some other kind of work. The difference between the respondent's and the Commission's figures for the cost of trimming and patrolling is not very wide and it appears that the difference would not be material were the respondent's figure reduced for the reason stated above.

The Commission's figures for electrodes and tube renewals are less than those stated by the respondent for the reason that the burning period is less than an all night every night schedule.

The total for power, distribution, and consumption expenses appears to be lower for magnetite lamps than for the alternating current enclosed lamps and consequently the charges for general and undistributed expenses have been lowered proportionately. The reasoning upon which this action is based could hardly be successfully attacked without overthrowing also the so-called "overhead" basis of apportioning such costs, which was fol-

lowed in arriving at the cost of operating the present system of lighting.

Taxes, it is estimated, would be a little higher for the magnetite arc lamps than for the alternating current enclosed arc lamps because it appears that the investment would be increased by the change. The increase in the tax rate would apply to magnetite lamps as well as to the present system.

Allowance for depreciation, interest and profits must be added to the estimate of maintenance and operating expenses, and, as our investigation shows that the street lighting investment for a magnetite arc system would be increased to about $24,000, allowance must also be made for a small increase in fixed charges.

Depreciation computed on the 2 per cent sinking fund basis would amount to $912 per year and on the straight line basis to $1,084. Interest and profits at 7 per cent of the investment would be $1,680 and at 8 per cent, $1,920. When these amounts are added to the tentative estimate of maintenance and operating expenses, it appears that the total cost, with interest and profits a 7 per cent and depreciation on the sinking fund basis, would be $5,297, or $51.93 per lamp; with interest and profits at 8 per cent and depreciation on the straight line basis, $5,709, or $55.97 per lamp. In view of these facts and the facts brought out concerning taxes and other elements of cost, it appears that the rate for four ampere series magnetite arc lamps should be $55.00 per lamp per year. But inasmuch as definite action which would lead us to believe that such a system will be installed has not been taken by the respondent, an order on this phase of the subject does not appear to be required at this time.

IT IS THEREFORE ORDERED, That the Watertown Gas and Electric Company, respondent, abandon its present schedule of rates for street arc lighting service in the city of Watertown and substitute in lieu thereof a charge of $57 per lamp per year.

IT IS FURTHER ORDERED, That the respondent furnish service at this rate on an all night, dark night schedule, which requires from 3,200 to 3,400 hours of burning per year.

PESHTIGO LUMBER COMPANY
vs.
CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted Jan. 13, 1914. Decided June 25, 1914.

Complaint was made of excessive charges on shipments of saw logs from various Wisconsin points to Peshtigo, Wis. It appears that during the period in question the rates in force were slightly higher than those subsequently ordered by the Commission. (*Nor. Hemlock & Hardwood Ass'n v. C. & N. W. R. Co.* 1913, 12 W. R. C. R. 241.) In that order the old rates were readjusted and slightly lowered, and the petition asks for a refund on the basis of the rates thus established. The matter of the reasonableness of the rates in question was considered when they were readjusted and the Commission found that they were a little higher than the circumstances warranted, and so arranged as to apply the same rate for a long series of distances and then jump abruptly to a considerably higher rate. The rates ordered were intended to correct these two conditions, neither one of which was specifically declared to be unreasonable.

Held: There is not sufficient ground to authorize a refund in the present case. It is only when the Commission finds the rate is unusual, exorbitant, illegal or erroneous that reparation may be awarded. The mere fact that a rate has been reduced by the Commission is not sufficient ground in itself for authorizing refunds. (*Menasha Wooden Ware Co. v. W. C. R. Co.* 1908, 2 W. R. C. R. 589; *Beaver Dam Lbr. Co. v. C. St. P. M. & O. R. Co.* 1908, 2 W. R. C. R. 700; *Merrill Wooden Ware Co. v. C. M. & St. P. R. Co.* 1908, 3 W. R. C. R. 54; *Connor Land & Lbr. Co. v. C. & N. W. R. Co.* 1911, 7 W. R. C. R. 774.) The petition is dismissed.

The petitioner is a corporation engaged in the lumber business with principal offices at Milwaukee, Wis. It alleges, among other things, that the respondent, from December 9, 1909, until February 11, 1913, maintained distance tariff rates on saw logs in trainload lots of twenty cars, applicable between stations on its line in the state of Wisconsin; that such rates varied from 1 ct. per 100 lb. for a distance of 65 miles or over to 2 cts. per 100 lb. for a distance of 190 and above 145 miles; that said tariff expired by limitation on February 11, 1913, after which the rates applicable to shipments of saw logs within the state were prescribed in respondent's tariff G. F. D. 10891—A., which were

higher than the trainload rates; that by virtue of an order of the Commission made on July 11, 1913, a new schedule of rates was established which was higher than the charges prescribed in the trainload tariff, but lower than those prescribed in G. F. D. 10891—A; that between February 11, 1913, and July 19, 1913, the petitioner shipped a large number of cars over respondent's lines from various stations to petitioner's mill at Peshtigo, Wis., upon which shipments the petitioner paid the rates prescribed in the tariff G. F. D. 10891—A; that such rates so paid by the petitioner were and are unjust, unreasonable and exorbitant. Wherefore, petitioner prays that the respondent be authorized and required to refund to it the difference between the rates exacted and those prescribed in tariff G. F. D. 14755—A and established by the order of the Commission.

The answer of the respondent is in effect a general denial of the allegations of the petition.

The matter came on for hearing on January 13, 1914. The petitioner was represented by *Edward Leveille* and the respondent by *Robert H. Widdicombe,* its attorney.

The petitioner complains of charges alleged to have been paid on shipments of logs from Shawano, Bowler, Eland Junction, Wittenberg, Whitcomb, Mattoon, Long Lake and Summit Lake to Peshtigo during the period February 11, 1913, to July 19, 1913, and asks for refund on the basis of rates established by order of the Commission in *Northern Hemlock and Hardwood Mfrs. Ass'n v. C. & N. W. R. Co.,* decided July 11, 1913. (12 W. R. C. R. 241.) Neither statement of shipments or freight bills were filed in the case, but petitioner signifies a willingness to file these documents if called upon so to do by the Commission. The complaint arises from the cancellation by respondent, February 11, 1913, of its trainload rates on logs, and the substitution therefor, automatically, of its single car rates that had been in force during the period covered by the trainload rates and remained in force up to July 19, 1913, when rates ordered by the Commission in the case cited were substituted therefor. The effect of the cancellation of the trainload rates, insofar as the points involved in the present complaint are concerned, is shown in the following table:

LOGS FOR MANUFACTURE THE PRODUCT OF WHICH IS SHIPPED VIA THE C. & N. W. RY. CO.

To Peshtigo from	Miles.	Rates in cents per 100 lb.			Excessive charges based on present rates.		
		Trainloads 11—1—09 to 2—11—13.	2—11—13 to 7—19—13.	Since 7—19—13.	Per 100 lb., cents.	Per car of 60,000 lbs.	Per 1000 ft. of logs at 5,000 ft. per car.
Shawano	54	1.	1.75	1.5	0.25	$1.50	$0.30
Bowler	74	1.25	2.	1.8	.2	1.20	.24
Eland Jct	86	1.5	2.5	2.1	.4	2.40	.48
Wittenberg	90	1.5	2.5	2.1	.4	2.40	.48
Whitcomb	92	1.5	2.5	2.1	.4	2.40	.48
Mattoon	106	1.5	2.5	2.4	.1	.60	.12
Long Lake	113	1.75	2.75	2.5	.25	1.50	.30
Summit Lake	123	1.75	3.	2.6	.4	2.40	.48

From the foregoing it appears that during the period February 11 to July 19, 1913, the difference between the rates applying on logs from and to the points named and the rates ordered by the Commission in the case referred to above would amount to 60 cts. to $2.40 per car of 60,000 lb., or to about 12 cts. to 48 cts. per 1,000 ft. of logs based on 5,000 ft. per car, making average excess charges, in case the same number of shipments moved from each point, $1.80 per car or 36 cts. per 1000 feet of logs. These differences are so small that it is not likely complaint for refund would be filed in case a few shipments only were involved, but, of course, in the case of a large number of shipments a more or less substantial aggregate could be shown.

The matter of the reasonableness of the rates involved in this case was quite fully gone into in the case cited above. In that case the Commission said that these rates "seem to be a little higher than the circumstances warrant" and that "they are also arranged * * * in such a way as to apply the same rate for a long series of distances and then jump abruptly to a considerably higher rate." The rates ordered were intended to correct the two conditions mentioned, neither one of which was specifically declared to be unreasonable. Refund was not asked for or authorized in that case and, taking into consideration the whole situation disclosed in both cases, there appears to be insufficient grounds upon which to authorize refund in the present case. It is only when the Commission finds that the rate is unusual, exorbitant, illegal or erroneous that reparation may be

awarded. The mere fact that a rate has been reduced by the Commission is not sufficient ground in itself for authorizing refunds. (*Menasha Wooden Ware Co. v. W. C. R. Co.* 1908, 2 W. R. C. R. 589; *Beaver Dam Lbr. Co. v. C. St. P. M. & O. R. Co.* 1908, 2 W. R. C. R. 700; *Merrill Wooden Ware Co. v. C. M. & St. P. R. Co.* 1908, 3 W. R. C. R. 54; *Connor Land & Lbr. Co. v. C. & N. W. R. Co.* 1911, 7 W. R. C. R. 774).

For the reasons stated the petition will be dismissed.

NOW, THEREFORE, IT IS ORDERED, That the petition herein be and the same is hereby dismissed.

BARKER-STEWART LUMBER CO. vs. CHICAGO & N. W. RY. CO.
BROOKS & ROSS LUMBER CO. vs. CHICAGO & N. W. RY. CO.
B. HEINEMANN LUMBER CO. vs. CHICAGO & N. W. RY. CO.
DIAMOND LUMBER CO. vs. CHICAGO & N. W. RY. CO.
HOLT LUMBER CO. vs. CHICAGO & N. W. RY. CO.
HOLLISTER AMOS & CO. vs. CHICAGO & N. W. RY. CO.
JACOB MORTENSON LUMBER CO. vs. CHICAGO & N. W. RY. CO.
MASON DONALDSON CO. vs. CHICAGO & N. W. RY. CO.
MENASHA WOODEN WARE CO. vs. CHICAGO & N. W. RY. CO.
MOORE GALLOWAY LUMBER CO. vs. CHICAGO & N. W. RY. CO.
OCONTO LUMBER CO. vs. CHICAGO & N. W. RY. CO.
PAINE LUMBER CO. vs. CHICAGO & N. W. RY. CO.
SAWYER GOODMAN CO. vs. CHICAGO & N. W. RY. CO.
TIGERTON LUMBER CO. vs. CHICAGO & N. W. RY. CO.
UNDERWOOD VENEER CO. vs. CHICAGO & N. W. RY. CO.

Submitted April 17, 1914. Decided June 25, 1914.

Complaint was made of exorbitant rates upon shipments of saw logs in carload lots from various Wisconsin points to the manufacturing points of the fifteen different petitioners. Refund is asked on the basis of the rate schedule ordered by the Commission in *Northern Hemlock & Hardwood Mfrs. Ass. v. C. & N. W. R. Co.* 1913, 12 W. R. C. R. 241. It appears that the rates ordered by the Commission were considerably higher than the trainload rates that expired February 11, 1913, and slightly lower than the carload rates in place of which they were substituted. Refund is asked on shipments charged the carload rates discontinued by the Commission's order. In the order in question the Commission found that the trainload rates were unreasonably low, but the carload rates were a little higher than the circumstances warranted, and so arranged as to apply the same rate for a long series of distances and then jump abruptly to a considerably higher rate. The rates for carload shipments, until changed by the Commission, had been in effect for a number of years without protest on the part of the shippers, and were availed of by those who enjoyed the special contract rates for trainload shipments, when shipping in less than trainload lots. It was conceded that if the special rates had been in effect during the period in question, some of the shipments would have moved in carload lots and taken the regular rates applicable to carload shipments, in which event no objection would have been raised to the rates for carload shipments.

Held: It is impossible to determine what amount of the commodity would have moved in either form. Therefore, to award reparation upon the shipments in question would discriminate against all shippers obliged to pay the regular rates during the period

involved unless like reparation were also awarded to them upon demand. It would also be manifestly unjust to the carrier to establish a rule which would have the likely effect of mulcting it in a large amount to satisfy reparation claims not otherwise thought of, simply because the carrier had failed to voluntarily make certain slight reductions in a schedule of rates, to which no previous objection had been made either by any shipper or the Commission (*Andarko Cotton Oil Co. v. A. T. & S. F. R. Co.* 20 I. C. C. R. 43, 50). Furthermore such a policy would be inimical to the best interests of all concerned, would tend to bring about a rigidity of rate schedules through the temerity of carriers to make adjustments required by business conditions, would cause the Commission to hesitate and estimate ultimate consequences before reducing rates in order to stimulate traffic in particular instances, and through shippers' possible overzealousness to recoup alleged excess freight charges might induce a condition militating against the full, fair regulation of transportation charges primarily contemplated by the statute (*Stevens & Jarvis Lbr. Co. v. C. St. P. M. & O. R. Co.* 1907, 2 W. R. C. R. 131, 134). The relief granted in the case upon which this claim for reparation is based was intended as a complete adjustment of the log rate situation there involved, and it was not the purpose of the Commission that the rates there established should have any retroactive effect. Petitions dismissed.

The petitioners are manufacturers of lumber in northern Wisconsin. Separate petitions were filed, in each of which it is alleged that the respondent had charged erroneous, illegal, unusual and exorbitant rates upon shipments of saw logs in carload lots, from various points in Wisconsin to their respective manufacturing points, during the period from February 11, 1913, to July 19, 1913, which were in excess of rates provided in its tariff G. F. D. No. 109810—A issued November 18, 1908, effective January 1, 1909. Reparation in amounts varying from $100 to over $1,000 is asked.

The respondent, answering the several petitions, admits all the formal allegations thereof, but denies that the rates charged for the transportation of logs from the various points in Wisconsin to the manufacturing points of the several petitioners are illegal, unusual, or exorbitant, and prays that the petitions be dismissed.

The hearing was held April 17, 1914, at the office of the Railroad Commission, in the Capitol, Madison, Wis. The petitioners were represented by *George A. Schroeder,* of Milwaukee, *W. A. Holt,* Oconto, Wis., *J. T. Phillips,* Green Bay, Wis., and *J. H. Johannes* of Wausau, Wis. *C. C. Wright,* general solicitor for the Chicago & North Western Railway Company, and *H. C. Cheney,* assistant general freight agent, appeared for the respondent.

There were in all fifteen separate petitions filed. These were consolidated and heard as one. At the hearing the attorney for the petitioners asked that the proceedings in the case of the *Northern Hemlock & Hardwood Mfrs. Assn. v. C. & N. W. R.* Co. 1913, 12 W. R. C. R. 241, be made a part of the proceedings in this case, as the reparations asked for are based upon the findings and order of the Commission in that case.

From the files in the case cited above, it appears that effective February 11, 1913, as provided by notice in the tariff, certain trainload rates on logs that had been in force a number of years between points on respondent's line expired and were replaced by carload rates that had been in force simultaneously with the trainload rates. The carload rates were considerably higher than the trainload rates, and this advance furnished the grounds for the complaint. The Commission held that the refusal of the carrier to continue the trainload rates was justifiable for the reason that these rates are not only unreasonably low but also discriminated against shipments moving under the carload rates, and that the carload rates were a little higher than the circumstances warrant, and were also arranged in such a way as to apply the same rate for long series of distances and then jump abruptly to a considerably higher rate. A new schedule of rates was ordered to apply in lieu of the carload rates.

The rates ordered by the Commission in the case referred to were considerably higher than the trainload rates that expired February 11, 1913, and slightly lower than the carload rates in place of which they were substituted. These rates average about 0.70 cts. per 100 lb. higher than the trainload and 0.27 cts. per 100 lb. lower than the carload rates. For distances 20 miles and less they are the same as the trainload rates, and for distances 10 miles and less they are the same as the carload rates. For distances over 20 miles the difference, according to different distances, varies from 0.10 cts. to 1.30 cts. over the trainload rates, and for distances over 10 miles from 0.10 cts. to 0.50 cts. per 100 lb. under the carload rates. From the testimony and exhibits in this case it appears that on the average, logs weigh about 5,000 lb. per 1,000 feet, and about 60,000 lb. per car, so that it may be assumed that the average difference between the carload rates ordered by the Commission and the carload rates superseded thereby would be somewhere around 30 cts. per 1,000 feet of logs and $1.80 per car. This average would vary, of course, according to

the percentage of total shipments moved under rates for specified distances, but on the whole it may be taken as a fair estimate. It is apparent, therefore, that the importance of the case now under investigation depends to a great extent, if not wholly, upon the aggregate number of shipments and the distance shipped rather than upon any difference in rates as applied to single carload shipments. It is not likely that the present complaint or any complaint based on the same conditions would come before the Commission if but few shipments were involved.

There appears to be nothing in the matter presented directly in connection with the case now before the Commission, nothing, at least, having an important bearing on the points involved, that was not fully presented in connection with the rate case mentioned, and it is quite evident from the proceedings had in the instant case that the parties interested feel that the former case presents all the matter necessary for a determination of the points at issue herein. The rates for carload shipments, before changed by the Commission, had been effective for a number of years without protest on the part of the shippers, and were in effect during the existence of the special contract rates for trainload shipments, and also availed of by those who enjoyed such special rates when shipping in less than trainload lots. The smaller shippers who could only make carload shipments were obliged to pay the regular rate. It is conceded in the testimony that if the special rates had been in effect during the period in which the shipments in question were made, not all such shipments would have moved in trainload lots, but some of them would have moved in carload lots and taken the regular rates applicable to carload shipments. In that event no objection would have been raised to the rates for carload shipments. It is impossible to determine what amount of the commodity would have moved in either form. Under the circumstances, even if the petitioners were entitled to reparation, the same could not be justly demanded upon shipments which would not have taken the special rates. Hence, to award reparation to the petitioners upon the shipments in question would be a discrimination against all shippers who were obliged to pay the regular rates during the same period unless like reparation were awarded to them upon demand. As all business transactions of the vast majority of shippers involving the amount of transportation charges probably occurred and were concluded upon the basis of rates in ef-

fect when the commodity moved, it would be manifestly unjust to the carrier to establish a rule which would likely have the effect of mulcting the carrier in a large amount required to satisfy numerous reparation claims, which would otherwise not be thought of, because it failed to voluntarily make certain slight reductions in a schedule of rates to which no previous objection had been made either by any shipper or by the Commission. The policy of such a rule would be inimical to the best interests of all concerned. The tendency would be to bring about a rigidity of rate schedules through the temerity of carriers to make adjustments of rates when required by business conditions. The Commission would also be obliged to hesitate and estimate ultimate consequences to the carriers before reducing individual rates or a schedule of rates in order to stimulate traffic in particular instances. In many cases it would be better for shippers to forget past transactions, but by overzealousness to recoup alleged excess freight charges they might induce a condition which would militate against that full and fair regulation of transportation charges in general primarily contemplated by the statute.

Commenting upon the statute under which these proceedings are brought, the Commission said in *Steven & Jarvis Lumber Co. v. C. St. P. M. & O. R. Co.* 1907, 2 W. R. C. R. 131, 134:

". . . It may be well here to note that the statute under which this complaint is made seems to be generally misconceived. A shipper is not entitled to a refund merely because a railway company amends a tariff by lowering a rate, which a shipper was obliged to pay for shipments made prior to the amendment. Such a reduction, independently of other considerations, should not be held to be an admission on the part of the railway company that the prior rate was either unusual or exorbitant, otherwise the policy of the law, of which the statute under consideration is an amendment, would be in a great measure defeated.

This statute was intended to meet exceptional cases and provide relief in cases of exceptional hardships, and not designed to penalize railway companies by voluntarily reducing rates where commercial or other conditions warranted a reduction. Evidently, if a railway company were subject to a rebate upon all shipments made during a period of six months prior to the reduction of any rate at which the shipments moved, we should find few alterations in schedules lowering rates except those ordered by the Commission upon complaint of shippers or upon investigations by the Commission upon its own initiative."

The principle thus enunciated is also adhered to by the interstate commerce commission. JUDGE CLEMENTS, speaking for that commission in *Andarko Cotton Oil Co. v. A. T. & S. F. R. Co.* 20 I. C. C. R. 43, 50, says:

"* * * In the matter before us it appears that some of the rates between many of the points involved were formerly higher than at present, and the situation here fairly illustrates what has taken place elsewhere in reductions from time to time in rates as the density of traffic increases with that of population and business development in a new and growing community. It would be a manifestly harsh rule that would assume a rate now condemned as unreasonable to have been so for a period of two years, or that of the statute of limitations, in the past as a basis for the payment of money by the carriers on past shipments, especially when no complaint had been made against them within that period. Certain it is that the law establishes no such presumption, nor is it a necessary sequence that the rate has been unreasonable for any period in the past. Neither does it seem that the bona fide action of the carriers in the necessary exercise of their judgment within reasonable limits should always be at their peril of liability for reparation for the difference between rates initiated upon their judgment and later changed upon the judgment of the Commission. Therefore the awarding of reparation by no means necessarily follows the reduction of a rate, whether by the voluntary action of the carriers or by order of the Commission."

The Commission has carefully examined and considered all the matter introduced in connection with the rate case, and has failed to find therein sufficient grounds upon which to authorize the reparations asked for in the instant cases. The relief granted in the former case was intended as a full and complete adjustment of the log rate situation involved therein, and it was not the purpose of the Commission that the rates established in that case should have any retroactive effect.

NOW, THEREFORE, IT IS ORDERED, That the petition in each of the above entitled cases be and the same is hereby dismissed.

F. A. DENNETT ET AL.
vs.
CITY OF SHEBOYGAN.

Decided June 29, 1914.

The petitioners requested the Commission to make a thorough investigation of the Sheboygan city water system, its administration, its physical property with relation to its present and future needs, its financial position and the rates now charged for various kinds of service, and upon such investigation to give to the proper administrative authorities such advice or direction as is found to be advisable.

The total cost of the property and plant on June 30, 1913, was about $507,739. In the instant case certain additions should be made to the estimated cost new of plant, for such extensions of mains or enlargements and reinforcements of the system as it appears must be added in the near future.

Held: An analysis of the operating data indicates that the city is not paying as much as it should for fire protection, while other consumers are paying an excess sufficient to meet the deficiency from the fire service, and leave a large surplus besides. The present annual charge for fire service protection should be increased. The total charge for public service, which includes fire service and public use of water should be paid in a lump sum per annum and should amount to the cost as determined. Rigid rules and inspections should be inaugurated to eliminate the wasteful use of water through leaky fixtures, improper use of hose for sprinkling, etc. All consumers owning their meters should be paid a reasonable rental for the same. All free service is to be discontinued. Special rates to hotels, halls and theaters are to be eliminated, and the schedules proposed substituted. Bills not paid within fifteen days of the date they are due are to be assessed a 5 per cent penalty. The respondent is ordered to discontinue its present rates and substitute therefor one of the two schedules proposed by the Commission.

Held: Since the water system has reached its economical capacity steps should be at once taken by the water department to carry out the recommendations regarding the installation of reinforcing mains, etc. in order to improve the fire protection service to all portions of the city at present inadequately protected. It is ordered that the city carry out such installations and such other plant extensions as are necessary to furnish an adequate supply of wholesome water.

Held: The water department should assume the expense of keeping all meters in repair. All consumers using considerable quantities of water should be metered. However, the general installation of meters is not required in this case. The Commission recognizes that under special conditions the advantages of installing meters are not sufficient to offset the additional cost.

Whether the present apparent freedom from contamination of the water can be depended upon to continue indefinitely, cannot at present be determined. If it is liable to contamination, the purification of the supply should be immediately investigated.

As regards the handling of monies of the water department, attention is called to secs. 925—95*b* to 925—95*c* of the statutes, which specifically provide for the administration of waterworks accounts. Compliance with these provisions will relieve the present confusion regarding the handling of finances.

The petition in this matter was filed with the Commission on October 21, 1913. The petitioners request the Commission to make a thorough investigation of the Sheboygan city water system, its administration, its physical property with relation to its present and future needs, its financial position and the rates now charged for various kinds of service, and upon such investigation to give to the proper administrative authorities such advice or direction as is found to be advisable.

The hearings in the matters here involved began on December 18, 1913, at the office of the Railroad Commission in the Capitol, in the city of Madison, Wis. An adjourned hearing was held on February 19, 1914 at the city hall in the city of Sheboygan, Wis. The following appearances were entered December 18, 1913: *O. B. Joerns* and *F. A. Dennett,* members of the water commission; *H. A. Detling,* attorney, on behalf of Mayor Dieckmann; *Edward Voigt,* city attorney, city of Sheboygan; *F. S. Morris,* alderman 1st ward, city of Sheboygan.

At the adjourned meeting the foregoing appearances were again entered and in addition the following: *Theo. Dieckmann,* mayor, city of Sheboygan, *Henry Jung* and others.

The rates complained of follow:

PUBLIC SERVICE:

Hydrant rental

224 hydrants	contract	$6,660.00 per year
216 "	each	30.00 "

METER RATES:

First	5,000	gallons at	40	cts. per 1,000 gallons
Next	5,000	"	30	" "
"	10,000	"	25	" "
"	20,000	"	20	" "
"	60,000	"	15	" "
"	100,000	"	10	" "
"	100,000	"	8	" "
"	200,000	"	7	" "
"	500,000	"	6	" "
"	1,000,000	"	5	" "

Any quantity after 2,000,000 gallons has been consumed per month at 5 cts. per 1,000 gallons.

*Service Charge**

For ½ inch meter	$1.00 per month
" ¾ " "	2.00 "
" 1 " "	4.00 "
" each additional half inch in size $2.00 per month.	

FLAT RATES:

Minimum annual charge	$5.00 per year
Banks, one faucet	10.00 "
Bakery, daily average for each bbl. of flour used, per bbl	4.00 "
Barber shop, one chair	6.00 "
Barber shop, each additional chair	4.00 "
Baths, private, without heating apparatus	3.50 "
Baths, private, with heating apparatus	5.00 "
Each additional	3.00 "
Baths, public, per tub	12.00 "
Baths, hotel or boarding house, each tub, cold	6.00 "
Baths, hotel or boarding house, each tub, hot	8.00 "
Blacksmith shop, first fire	5.00 "
Blacksmith shop, each additional fire	2.00 "
Building purposes, bricks, per 1,000 laid	.10
Building purposes, stone, per perch	.07
Building purposes, plaster, per 100 yard	.30
Boarding house (no license less than $10) per room	1.50 "
Laundries	20.00–50.00 "
Offices with wash basin	5.00 "
Printing office, six hands or less	12.00 "
Printing office, each additional hand	1.50 "
Photograph galleries	15.00 "
Residence occupied by one family	5.00 "
Restaurants, hotels, halls and theaters (special rates)	
Stables, private, one horse, including washing carriage	4.00 "
Stables, private, each additional horse	2.00 "
Stables, private, cows, each	2.00 "
Stables, livery, boarding or sale, including carriage washing, per horse, (no license less than $10.00)	2.00 "
Steam boilers, per horse power (special)	
Saloons	12.00–30.00 "
Wash basins, self-closing faucets	3.00 "
Wash basins, each additional	1.50 "
Stores and shops	5.00–20.00 "
Urinals, private, with self-closing faucets	3.00 "
Urinals, public, with self-closing faucets	8.00 "
Water closets, private, self-closing	4.00 "
Water closets, private, each additional	2.00 "
Water closets, public, hotels, stores, restaurants and saloons	10.00 "
Sprinkling carts, filling each cart per day	.50 "
Sprinkling carts, filling each cart ½ day	.25 "
Season Rates:	
Sprinkling lawns with ⅛ inch nozzle four hours per day, 50 foot front or less	5.00 "
Each additional front foot	.10 "
Streets (corner lots measurements, on both fronts for street sprinkling) in addition to lawn sprinkling per foot	.05 "

* This is applied as a minimum bill instead of a service charge.

Fountains to be used not more than six hours per day for the season for six months as follows:

1-16 inch jet	$10.00	"
1-8 "	20.00	"
3-16 "	35.00	"
Soda fountains	10.00–25.00	"

All supplies not enumerated, subject to special rates and water rates charged by said guarantees to consumers, for domestic and manufacturing purposes shall not exceed the average rates charged at other cities of the state of Wisconsin. Special license issued for building purposes.

Bills due and payable quarterly in advance the first day of January, April, July, and October each year. Meter rents are rendered monthly. A charge of not less than $1 made for turning off and on water for violation of any rules or regulations of company or for non-payment of bills, or for discontinuance of service to vacated premises.

Hose, not larger than ¾ inch with a nozzle not larger than ¼ inch permitted, but shall be held in hand while in use. Time for sprinkling limited to five hours per day from 6 to 9 a. m. and from 5 to 8 p. m. from April 1 to October 31 each year.

City reserves right to set meters upon any service pipes, and consumers may install and maintain meters at their own expense. All meters to be placed in sidewalks or street properly protected.

City may supply motors, steam boilers, etc., through meters and charge a rental equal to 20 per cent of its cost complete, placing the meter at the expense of the consumer.

Discount:

25 per cent on all flat rate bills.

25 per cent on all meter bills when rate is above 10 cts. per M gallons.

10 per cent on all meter bills when rate is 8 cts. and 10 cts. per M gallons.

VALUATION.

No valuation of the physical property of the Sheboygan City Water Works has been made for the purposes of the instant case. The Commission, however, *In re City Water Co. of Sheboygan,* 1909, 3 W. R. C. R. 371–377, held that the just compensation to be paid to the City Water Company of Sheboygan for the taking of the property of the company by the city was $415,000.

At the close of the year ended June 30, 1909, the cost of the property and plant was reported to have been $424,712.98. During the year ended June 30, 1910, $60,504.56 was expended upon construction and equipment, giving a cost of $485,217.54 at the close of the year. During the succeeding year the reported expenditure amounted to $8,064.15, and during the following fiscal year $7,997.47 was reported expended. For the fiscal period ending June 30, 1913 about $6,460 was expended. This gives a total cost on this latter date of about $507,739.

Careful attention must be given in all cases to valuation and cost because of the fact that the actual value of a plant and the cost of service bear a close and direct relation to the reasonable charges which should be paid for the service furnished by the utility. In the instant case certain additions should undoubtedly be made to the estimated cost new of the plant, for such extensions of mains or enlargements and reinforcements of the system as it appears must be added in the near future.

It appears evident from our investigation that unless sprinkling and other unnecessary uses of water during fires be forbidden, and actually be prevented, feeder mains must be correspondingly enlarged or the fire service will suffer. If the general use of water during fires be thus reduced to the practicable minimum, there seems to be no necessity of considering the effect of a general installation of meters. From the examinations made by the engineers of the Commission the conclusion is drawn that, so far as the increase in investment or capacities is concerned, the restriction of the general use of water during fires is of much greater importance than the question of reducing pumpage by a general installation of meters.

Extensive sprinkling during certain times at present, it appears, even when there is no fire to diminish pressure, causes such decreased pressure on the mains in certain sections of the city that some consumers are unable to get water even for domestic purposes. If this condition continues it will undoubtedly be necessary to install reinforcing mains, larger pumping equipment and an additional or larger intake. Such additions to plant will undoubtedly entail an expenditure of approximately $200,000. While the city of Sheboygan may have an unlimited supply of water, the present apparatus for supplying the water to consumers is limited. Reduction in pumpage by the use of meters will not only reduce operating expenses, but will delay the growth of fixed charges.

An examination of the report made to the city of Sheboygan by Mr. C. B. Stewart regarding the reinforcing mains required by the city, reveals the fact that the water system has reached its economical capacity, and it becomes apparent that such recommendations as he has suggested were properly made in order to adequately meet future needs.

It does not seem equitable, however, to make present consumers bear the entire burden of these future additions. It appears

proper to make slight additions to the unit costs, but some allowance must necessarily be made for such additional business as will undoubtedly materialize when such extensions and improvements are made.

WATER SUPPLY.

It is stated that the situation confronting officials of the water department of the city of Sheboygan as regards future improvements along certain lines is indeterminable, especially as regards contamination of the supply. A movement to purify the waters of the Great Lakes is in progress but just what course this movement will take is uncertain. There has been no contemplation of changing to a ground water supply and up to the present no need for such change. A contaminated supply would undoubtedly force the installation of a large filter plant in order to handle the enormous pumpage now being delivered to the city. It is difficult to estimate the money value to the city of a wholesome supply of water from a sanitary standpoint. If the supply of water at Sheboygan, due to the length of intake and other factors, is liable to contamination and hence is injurious for domestic and public purposes, the purification of the supply should be immediately investigated.

No bacteriological or chemical examinations have been made of water from the Sheboygan system. Samples of lake water analyzed at other cities located along the Great Lakes, however, indicate the presence in the water of considerable quantities of extraneous matter. Whether the present apparent freedom from contamination of the water at Sheboygan can be depended upon to continue indefinitely with the growing lake water contamination by sewage discharged into the lake, cannot at present be determined. The treatment of sewage by all lake cities, including Sheboygan may be found to be necessary at no distant date and in that event the danger of contamination of the present supply of lake water at Sheboygan would be at once reduced. Of course, the intake to deep water, if of sufficient length, secures reasonable immunity from contamination.

In our computations in this case we have made no allowances for the probable future installation of a filtration system, believing that the rates as now allowed will be sufficient to carry the proper additional charges necessarily involved if such a system is installed in the near future.

The following table discloses comparative operating statements of the Sheboygan City Water Department for the six years ended June 30, 1908, 1909, 1910, 1911, 1912 and 1913.

COMPARATIVE OPERATING STATEMENTS.

SHEBOYGAN CITY WATER WORKS.

Year Ending June 30.

	1908	1909	1910	1911	1912	1913
Income Account:						
Commercial sales	.....	$53,381 99	$66,714 28	.....	$20,048 74	$20,864 35
Flat rates	.....	8,004 03	.....	.....	51,907 87	51,978 95
Total	$58,203 00	$61,386 02	$66,714 28	$68,780 30	$71,956 61	$72,843 30
Hydrant rental	13,262 49	8,713 33	12,960 00	13,105 00	13,652 02	14,073 80
Street sprinkling	.....	1,037 38	781 88	1,745 84	1,811 47	1,954 96
Miscellaneous	650 41	.....	1,208 54	1,864 09	774 18	731 08
Total	$72,115 90	$71,136 73	$81,664 70	$85,495 23	$88,194 28	$89,603 14
Pumping expenses	$8,235 59	$10,162 57	$12,125 42	$10,884 48	$12,913 08	$12,464 56
Distribution	809 47	1,699 52	5,036 62	1,469 71	2,945 88	1,584 25
Commercial	.....	1,200 98	402 56	451 10	365 47	431 28
Total direct	$9,045 06	$13,054 07	$17,564 60	$12,805 29	$16,224 43	$14,480 09
General	10,518 60	4,969 74	4,338 25	3,056 79	2,848 25	2,636 67
Undistributed	.....	72 51	1,081 91	1,411 33	1,307 71	1,465 29
Total above	$19,563 66	$18,096 32	$22,984 76	$17,273 41	$20,380 39	$18,582 05
Taxes	6,116 94	3,532 42	.....	.....	.....	.....
Total	$25,680 60	$21,628 74	$22,984 76	$17,273 41	$20,380 39	$18,582 05
Amount available for depreciation and interest	$46,435 30	$49,507 99	$58,679 94	$68,221 82	$67,813 89	$71,021 09
Estimated value of plant (cost new)	$425,000 00	$424,713 00	$485,217 00	$493,282 00	$501,279 00	$507,739 00
Rate of return for depreciation and interest on above	10.92%	11.65%	12.09%	13.83%	13.52%	13.98%

NOTE:—Year 1908 and part of 1909 under private ownership.

Examination of the above statement shows that total operating expenses have not varied greatly during the period included, notwithstanding the fact that the total water pumped has increased from 990,089,000 gallons in 1910 to 1,200,000,000 gallons in 1913, or at the rate of about 70,000,000 gallons per year.

The amount of income available for depreciation and interest upon the estimated value of the plant has been sufficient to allow from 11 per cent to 14 per cent during the period for which statistics are presented.

The following table shows the detailed income account for the year ended June 30, 1913, as reported to the Commission by the Water Department:

SHEBOYGAN CITY WATER WORKS.

Income Account Year Ending June 30, 1913.

Revenues		
Commercial sales	$72,843.30	
Hydrant rentals	14,073.80	
Street sprinkling	1,954.96	
Miscellaneous earnings	731.08	
Total		$89,603.14
Expenses		
Pumping		
Pump labor	$2,702.30	
Steam generated	8,126.51	
Lubricants	175.15	
Misc. pump. station supplies and expenses	319.48	
Maint. pump. station equipment	403.49	
Maint. intakes and supply mains	197.06	
Maint. buildings, fixtures and grounds	540.57	
Total		$12,464.56
Distribution		
Street department labor	$41.36	
Customers premises expense	158.45	
Street department supplies and expense	294.26	
Meter dept. fttgs. supplies and expense	6.35	
Maintenance transmission mains	22.80	
Maintenance distribution mains	592.07	
Maint. hydrants	293.96	
Maintenance meters	175.00	
Total		$1,584.25
Commercial		
Collection salaries and commissions	$8.50	
Reading meters and delivering bills	422.78	
Total		431.28
Total direct		$14,480.09
General		
Salaries general offices	$1,500.00	
Salaries general office clerks	1,013.05	
Misc. general office supplies and expenses	91.82	
Misc. general expense	31.80	
Total		$2,636.67
Undistributed		
Injuries and damages	$297.20	
Insurance	69.24	
Stationery and printing	161.05	
Operation utility equipment	915.45	
Maint. utility equipment	22.35	
Total		$1,465.29
Total above items		$18,582.05
Depreciation		15,035.62
Interest		13,840.00
Total expenses		$47,457.67

RETURN.

It is the opinion of certain members of the Water Commission of the city of Sheboygan that the return upon the water works property should be large enough to establish a sinking fund to amortize outstanding bonds. In addition, main extensions, improvements, etc. should be made from surplus rather than new investment on the part of the city. An estimate of from 8 to 9 per cent above depreciation has been advanced as adequate to meet contingencies and at the same time give fair water rates.

Examination of the financial condition of the Water Department would indicate that the department has sufficient funds to make present needed improvements and extensions with the surplus at hand, so that rates as fixed by the Commission, if the Commission finds it advisable to so order, need provide only an amount above the ordinary interest charges to be set aside as a fund to amortize outstanding bonds.

As previously stated, it does not appear equitable to make present consumers contribute through the rates such large amounts towards future additions and towards retirement of present obligations as was suggested at the hearing in this case. Again, the probability of a cycle of hard times occurring later, as was also suggested during the hearings in this matter, should not be made the justification for saddling present consumers with rates through which a surplus fund may be built up to carry the plant over the period of decreased revenue.

For the purposes of determining the equity of the present rates a number of changes must be made in the income account, in view of the extensions and improvements contemplated in the near future. Pumping expenses have been taken at $12,913.08, distribution expense at $3,000.00, and commercial expenses have been placed at $450.00, while general and undistributed have been placed at $4,500.00. A tax allowance, estimated at $8,113.15, depreciation at $7,000.00 and interest at $33,200.00 have been included in the expenses.

The total normal operating expenses, excluding taxes, interest and depreciation amounting to $20,863.08, have been divided between fixed or capacity costs, which would continue even if operations were stopped, and output costs, which would stop if the plant discontinued operations and which vary with the output, as shown below:

Capacity	$8,764.84
Output	9,993.74
Direct to fire service	711.00
Direct to general service	1,393.50
	$20,863.08

When the above expenses as well as the allowance for taxes, interest and depreciation are apportioned between fire service and general service, the following results are obtained:

	General Service.			Fire Protection Service.		
	Operating expenses.	Taxes, depreciation and interest.	Total general.	Operating expenses.	Taxes, depreciation and interest.	Total fire service.
Capacity	$4,382 42	$8,087 62	$12,470 04	$4,382 42	$22,224 05	$26,606 47
Output	9,793 87	18,001 48	27,795 35	199 87	....	199 87
Direct	1,393 50	.....	1,393 50	711 00	.....	711 00
Total	$15,569 79	$26,089 10	$41,658 89	$5,293 29	$22,224 05	$27,517 34

The total cost of fire service is $13,443.54 in excess of the present revenue from this service. The revenue from general service on the other hand, excluding street sprinkling and miscellaneous earnings, was $31,184.41 in excess of the cost of service, or, including the above items, $33,870.45 in excess of the cost.

The facts outlined above clearly indicate that the present distribution of the cost of water service might equitably be changed somewhat. The city is not paying as much as it should for fire protection, while other consumers are paying an excess sufficient to meet the deficiency from the fire service and leave a large surplus besides.

If the city pays for this service an amount about as indicated here, certain reductions can be made in the rates to general consumers and still provide a surplus for a sinking fund to be used for any purpose determined by the water board, such as retirement of outstanding bonds, etc.

STATISTICS OF OPERATION.

The City Water Department reports a total pumpage of 1,200,822,190 gallons of water for the year ended June 30, 1913, an increase of 69,479,000 gallons over the corresponding period of 1912 and an increase of 150,479,000 gallons over 1911.

The total private services in use at the end of the last fiscal period, June 30, 1913, amounted to 4,294 and the total meters in use to 329. The total consumers were given as 4,585. At the time of our informal investigation of the Sheboygan rates in January, 1913, data secured from the records of the department indicated a distribution of consumers somewhat as shown below. The distribution of consumers for the fiscal year ended June 30, 1913, is also shown:

	Fiscal year 1913.	Calendar year 1913.	Per cent.
Total paying flat rate consumers	4,256	4,264	92.9
Total paying metered consumers	329	325	7.1
Total all consumers	4,585	4,589	100
Services not extended (approximately)	.....	567	.....

Of the above 4,264 flat rate consumers, about 94 per cent are residences. Of 313 metered consumers of whom we have accurate data, 95 are residences. As noted, only about 7 per cent of all consumers are metered. The metered users, the utility estimates, consumed a total of 162,685,689 gallons of water during the year ended June 30, 1912, and 181,594,908 gallons during the succeeding fiscal period, an increase of 18,909,219 gallons.

In view of the results obtained from a detailed analysis of the metered consumption it is estimated that total present pumpage will be distributed about as follows, although in the absence of complete metering the actual distribution must always be unknown:

WATER PUMPED TO VARIOUS CLASSES OF CONSUMERS.

	Gallons.	Per cent.
Present metered consumers	181,594,908	
Flat rate residence "	300,600,000	
" " commercial "	25,600,000	
Total	507,794,908	42.3
Street sprinkling, lost, unaccounted for, excessive use and double pumpage	693,027,282	57.7
Total pumpage	1,200,822,190	100

Meters and flat rate consumers are distributed as follows:

	Metered consumers.	Flat rate consumers.	Total probable No. of meters with all services metered.
½ inch	34	1,080	1,114
⅝ "	184	2,284	2,468
¾ "	54	857	911
1 "	24	18	42
1¼ "	2	.....	2
1½ "	7	5	12
2 "	19	4	23
3 "	2	.....	2
4 "	3	12	15
6 "	.....	34	34
	329	4,294	4,623

COST OF SERVICE.

Consumer expenses amount to about $0.315 per consumer. With practically all consumers metered, the metered consumer expense probably will be not more than $1.00 and may be considerably less. With depreciation, taxes and interest on meters based upon the values of the various sizes of meters the consumer expenses are as shown below:

	Taxes, depreciation, interest.	Consumer expenses.	Total expenses.
½ inch, ⅝ "	$1 08	$1.315	$2,395
¾ "	1 50	"	2,815
1 "	2 04	"	3,355
1¼ "	2 75	"	4,065
1½ "	4 20	"	5,515
2 "	6 60	"	7,915
3 "	13 20	"	14,515
4 "	21 00	"	22,315
6 "	38 40	"	39,715

The rate for general service may be made in the form of either a service charge and a charge for water used, or in the form of a minimum bill and an output charge for all water used in excess of the amount under the minimum. The service charge, or if a minimum is incorporated in the schedule, the minimum bill, will meet the consumer expenses and a part or all of the capacity expenses. The minimum charge also, of course, allows for a small amount of water. The remainder of the capacity expenses, if

not covered by the above charges, and the output expenses, will be met by the charge for water.

The service charge, with consumer expenses as indicated above, should be about as shown in the following table:

Size meter.	Consumer expenses.	Annual service charge.	Capacity costs met by service charge.
½ inch	$2 40	$3 60	$1 20
⅝ "			
¾ "	2 82	4 80	1 98
1 "	3 36	8 40	5 04
1¼ "	4 07	9 60	5 53
1½ "	5 52	12 00	6 48
2 "	7 92	18 00	10 08
3 "	14 52	27 00	12 48
4 "	22 32	48 00	25 68
6 "	39 72	96 00	56 28

The following table shows the total capacity expenses which would be met by service charges as outlined above:

Size meter.	Number.	Capacity expense per meter met by service charge.	Total capacity expense met by service charge.
½ inch	1,114	$1 20	$1,336 80
⅝ "	2,468	1 20	2,961 60
¾ "	911	1 98	1,803 78
1 "	42	5 04	211 68
1¼ "	2	5 53	11 06
1½ "	12	6 48	77 76
2 "	23	10 08	231 84
3 "	2	12 48	24 96
4 "	15	25 68	385 20
6 "	34	56 28	1,913 52
	4,623		$8,958 20

While the foregoing estimate may not represent conditions exactly because the distribution of meters by sizes may vary somewhat from the figures used, the total effect of such differences upon the amount of capacity expenses that would be borne by the service charge would not be important.

With the total capacity expenses met by the service charge amounting to $8,958.20, the total revenue to be obtained from the charge for water would be $31,307.19, assuming for the present the city pays the amount for fire protection service as previously suggested. With an estimated consumption of about 36,207,270 cubic feet of water, which appears normal for a city

of the size and character of Sheboygan, the average output cost per 100 cubic feet amounts to 8.64 cts.

An analysis of the distribution of sales of water has been made, and from this analysis a schedule incorporating a minimum charge which it is believed will fit conditions in Sheboygan better than a service charge schedule has been evolved somewhat as follows:

Minimum Monthly Charges.

½ and ⅝ inch meters $0.40; ¾ inch—$0.50; 1 inch—$0.80; 1¼ inch—$0.90; 1½ inch—$1.10; 2 inch—$1.60; 3 inch—$2.45; 4 inch—$4.20; 6 inch—$8.20.

Charges for Water.

First	200	cu. ft.	Minimum charge.
Next	800	"	17 cts. net per 100 cu. ft.
"	1,000	"	14 " " "
"	2,000	"	11¼ " " "
"	6,000	"	8½ " " "
"	10,000	"	6¾ " " "
"	30,000	"	5¼ " " "
"	50,000	"	4½ " " "
Over	100,000	"	3½ " " "

If it is assumed that no change will be made in the charge to the city for fire protection purposes, about $13,443.54 additional expenses chargeable to the city must be allocated to general service. With minimum charges varying with the size of the meter as outlined below, the charges for water must provide for about $44,750.73 if all consumers are metered.

Minimum Monthly Charges.

½ and ⅝ inch meters $0.50; ¾"—$0.60; 1"—$0.90; 1¼"—$1.00; 1½"—$1.20; 2"—$1.75; 3"—$2.75; 4"—$4.50; 6"—$8.50.

Charges for Water.

First	200	cu. ft.	Minimum charge.
Next	300	"	22 cts. net per 100 cu. ft.
"	500	"	17 " " "
"	1,500	"	14 " " "
"	1,500	"	11¼ " " "
"	6,000	"	8½ " " "
"	10,000	"	6¾ " " "
"	30,000	"	5¼ " " "
"	50,000	"	4½ " " "
Over	100,000	"	3½ " " "

FLAT RATES.

From a tentative analysis of flat rate water consumers in Sheboygan, it appears that there will be about 4,294 who will be assessed the net minimum charge for one faucet, namely $3.75. This minimum appears to us to be about as low as the conditions in Sheboygan would warrant. Any reduction in flat rates should come, it is believed, from lowering the charges for other fixtures. The old flat rate schedule has been revised and simplified to a considerable extent, and placed in a form which it is believed will equitably meet the conditions existing in Sheboygan.

An examination of the fixed annual charges assessed against water consumers in Sheboygan reveals the fact that there are certain users who have not been billed according to the rate schedules on file in this office. For this reason it may happen that while the proposed rates will result in a reduction to all consumers properly billed, the new rates may result in a slight increase to those consumers noted who have been improperly assessed.

Flat rates in many instances have proven to be exceedingly inequitable and unsatisfactory to both the consumer and the utility. It has been shown to be practically impossible to do justice to either party. If a rate is made upon an arbitrary basis, the unknown element of waste, which is always present, must be estimated and allowed for; the number and various kinds of openings, the number of persons each service supplies must be carefully ascertained. Thus the careful, economical and proper user of water is required to pay for the waste of his neighbor, which is manifestly unjust to him.

There are certain classes of flat rate users for whom no flat rate can be made that will be equitable. A rate based upon fixtures can never be satisfactory for consumers such as stores, saloons, restaurants, etc., the amounts used being dependent upon elements other than the nature and number of fixtures.

Even among residence consumers, when the same number of fixtures are installed, the amounts of water used vary enormously, depending upon the degree of care exercised by the consumers, their attitude towards the utility, the condition with regard to sewer connections, the leakiness of fixtures, etc.

Variations in charges are invariably found under flat rates, probably due to the difficulty of classifying such consumers un-

der any of the divisions of the flat rate schedule. All consumers whose use of water or whose premises are such that they cannot be classified logically under one of the general headings of the flat rate schedule should be placed on a meter basis.

While in the instant case the general installation of meters has not been required, this omission should not be taken to signify that the Commission approves the flat rate plan. The Commission recognizes, however, that under special conditions the advantages of installing meters are not sufficient to offset the additional cost.

CONCLUSION.

In view of the facts in this case, we feel that the present annual charge for fire service protection should be increased; that the total charge for public service, which includes fire service and public use of water, should be paid in a lump sum per annum and should amount to a figure closely approximating the cost determined herein. All free service in Sheboygan should be discontinued. Special rates to hotels, halls and theaters should be eliminated and the schedules herein proposed substituted. Rigid rules and inspections should be inaugurated to eliminate the wasteful use of water through leaky fixtures, improper use of hose for sprinkling, etc. All consumers using considerable quantities of water should be metered. Steps should at once be taken by the water department to carry out the recommendations of the engineer employed by them regarding the installation of reinforcing mains, etc., in order to improve the fire protection service to all portions of the city at present inadequately protected. Statistics show that over 40 per cent of the meters installed are owned by consumers. It is our opinion that the water department should assume the expenses of keeping all meters in repair and should pay all consumers owning their meters a reasonable rental for the same.

What the amount of reduction will be under the rates outlined, cannot be estimated very closely because of the large number of consumers not metered. For this reason the estimates and rates now made must of necessity be more or less of an experimental nature, and must be held subject to careful review by the Commission after a sufficient trial indicates the actual effect of the change

The financial position of the water department appears to be all that can be desired. The accumulation of about $87,000 of surplus now invested in water works and general city bonds, in addition to about $40,000 cash at present on deposit in the banks, indicates that the city is in a position to carry out such plant extensions as have been recommended by Mr. Stewart.

In regard to the handling of moneys of the water department, attention is called to sec. 925—95*b* to 925—95*c* of the statutes, which specifically provide for the administration of water works accounts. Compliance with the provisions as outlined in the law referred to will, it is believed, relieve the present confusion regarding the handling of finances.

Two schedules have been evolved; Schedule A, based upon the assumption that the city of Sheboygan pays an increased fire service charge; and Schedule B, based upon the assumption that no change is made in the present charge of this service to the city. Two forms of each of the flat rate portion of the schedules are submitted.

IT IS THEREFORE ORDERED, That the City of Sheboygan discontinue its present schedule of rates for water service and substitute therefor one of the following schedules.

Schedule A.

1. The City of Sheboygan shall be charged for fire protection the sum of $27,500 per year, payable annually, this amount to include the charge for sewer flushing, and water used in public city buildings.

2. Meter Rates—General Service.

Minimum Monthly Charge.

½ and ⅝ inch meter	$0.40
¾ " "	.50
1 " "	.80
1¼ " "	.90
1½ " "	1.10
2 " "	1.60
3 " "	2.45
4 " "	4.20
6 " "	8.20

Charges for Water per Month per Meter.

First 200 cu. ft. of water used	minimum charge.
Next 800 " " "	17 cts. net per C cu. ft.
" 1,000 " " "	14 " " "
" 2,000 " " "	11¼ " " "
" 6,000 " " "	8½ " " "
" 10,000 " " "	6¾ " " "
" 30,000 " " "	5¼ " " "
" 50,000 " " "	4½ " " "
Over 100,000 " " "	3½ " " "

3. Flat Rates.

Rates for all fixtures are in addition to the first faucet rate for premises.

	Net rates per annum. Residence.	Commercial.
All consumers—one faucet	$3.50	$3.50
Wash basins		
First basin (hot water)	2.00	2.00
First basin (cold water)	1.00	1.00
Additional basins	1.00	1.00
Additional faucets	....	1.00
Baths		
First bath—with heating apparatus	3.15	6.00
Each additional	2.00	5.00
Baths without heating apparatus	2.50	4.25
Water closets		
First closet	2.85	7.25
Each additional	1.25	5.00
Urinals	2.00	6.00
Hose connection	3.60	3.60
Water power (motor, pump, etc.)	1.50	3.00

The following consumers shall, in addition to the first faucet rate for premises, and the additional fixture charges, pay $1.00 per each additional unit exceeding one, listed below:

Barber shops	per chair
Bakeries	per average bbl. flour used per day per bbl.
Blacksmith shops	per fire
Boarding houses	per room
Livery stables	per horse
Printing offices	per hand
Saloons	per bib
Ice cream parlors	per three tables
Dyeing and scouring establishments	per hand
Foundry	per fire

Schedule B.

1. The City of Sheboygan shall be charged for fire protection the rates at present in effect.

2. Meter Rates—General Service.

	Minimum Monthly Charge.
½ and ⅝ inch meters	$0.50
¾ " "	.60
1 " "	.90
1¼ " "	1.00
1½ " "	1.20
2 " "	1.75
3 " "	2.75
4 " "	4.50
6 " "	8.50

For each additional consumer on a meter, above minima shall be assessed to each consumer.

Charges for Water per Month per Meter.

First	200	cu. ft.	used	minimum	charge.	
Next	300	"	"	22 cts.	net per	100 cu. ft.
"	500	"	"	17	"	" "
"	1,500	"	"	14	"	" "
"	1,500	"	"	11¼	"	" "
"	6,000	"	"	8½	"	" "
"	10,000	"	"	6¾	"	" "
"	30,000	"	"	5¼	"	" "
"	50,000	"	"	4½	"	" "
Over	100,000	"	"	3½	"	" "

3. Flat Rates.

Rates for all fixtures are in addition to the first faucet rate per premises.

	Net rates per annum. Residence.	Commercial.
All consumers—one faucet	$3.75	$3.75
Wash basins		
First basin (hot water)	2.10	2.10
First basin (cold water)	1.00	1.00
Additional basins	1.00	1.00
Additional faucets	....	1.00
Baths		
First, with heating apparatus	3.15	6.00
Each additional	2.00	5.00
Without heating apparatus	2.50	4.25
Water closets		
First closet	2.85	7.40
Each additional	1.25	5.00
Urinals	2.10	6.00
Hose connection	3.60	3.60
Water power—motor, pump, etc	1.50	3.25

The following consumers shall, in addition to the first faucet rate for premises, plus the additional fixture charges, pay $1.00 per each additional unit exceeding one, listed below:

Barber shops	per chair
Bakeries	per average bbl. flour used per day per bbl.
Blacksmith shops	per fire
Boarding houses	per room
Livery stables	per horse
Printing offices	per hand

The following consumers in addition to the first faucet and additional fixture charges shall pay $2.00 per each additional unit listed below.

Saloons	per bib
Ice cream parlors	per three tables
Dyeing and scouring establishments	per hand
Foundry	per fire

OPTIONAL FORM OF SCHEDULE OF FLAT RATES.

(Note: Amounts are similar to those noted above.)

	Schedule A	Schedule B
Minimum annual charge—(net) one faucet...	$3.50	$3.75
Banks	7.00	7.25
Bakery, daily average for each bbl. of flour used per bbl	2.85	2.85
Barber shops, 1st chair	4.25	4.35
Barber shops, each additional chair	1.00	1.00
Baths, private, without heating apparatus	2.50	2.50
Baths, private with heating apparatus	3.15	3.25
Baths, private each additional	2.00	2.00
Baths, public 1st tub	6.00	6.00
Baths, public each additional	5.00	5.00
Baths, hotel or boarding house—cold, each tub	4.25	4.35
Baths, hotel or boarding house—hot, 1st tub	5.50	6.00
Baths, hotel or boarding house—hot, each additional	5.00	5.00
Blacksmith shops, first fire	3.35	3.50
Blacksmith shops, each additional fire	1.00	1.00
Building purposes, brick per 1,000 laid	.07	.07
Building purposes, stone, per perch	.05	.05
Building purposes, plaster per 100 yds	.20	.20
Boarding house (minimum $7.00) per room	1.00	1.00
Halls (lodge, etc.)	3.50	3.75
Laundries—meter rates		
Offices—one wash basin	3.50	3.75
Offices—each additional basin	1.00	1.00
Printing office—six hands or less	8.50	8.75
Printing office, each additional hand	1.00	1.00
Photograph galleries	10.50	10.75
Residence—one family (one faucet)	3.50	3.75
Restaurants, hotels—meter rates		
Theaters	5.00	5.00
Stables, private, one horse, including washing carriage	2.75	3.00
Stables, private, each additional horse	1.00	1.00
Stables, livery, etc., including carriage washing (minimum $7.25) per horse	1.00	1.00
Steam boilers, meter rates		
Saloons—large—meter rates		
Saloons—small	8.00–20.00	8.50–21.50
Stores and shops—meter rates or	3.50–14.00	3.75–14.00
Urinals, private (residences) self closing faucets	2.00	2.10
Urinals, public self-closing faucets	6.00	6.00
Wash basins self-closing faucets	2.00	2.10
Wash basins, each additional	1.00	1.00
Wash basins, cold water per basin	1.00	1.00
Water closets, private (residences) self-closing	2.85	2.85
Water closets, each additional	1.25	1.25
Water closets, public (business houses, etc.) 1st	7.25	7.40
Water closets, public, each additional	5.00	5.00
Season Rates.		
Sprinkling lawns with ⅛ inch nozzle four hours per day, 50 ft. front or less	3.60	3.75
Each additional foot	.08	.07

Streets, (corner lots measurement, on both fronts for sprinkling) in addition to lawn sprinkling per foot.....	$0.035	$0.035
Fountains to be used not more than six hours per day, for the season of six months as follows:		
1/16 inch jet	7.25	7.50
1/8 "	14.50	15.00
3/16 "	25.00	26.00
Soda fountains, meter rates or.....	7.00–18.00	7.25–18.50

Penalty, either schedule A or B: bills not paid within fifteen days of the date they are due shall be assessed at 5 per cent penalty.

IT IS FURTHER ORDERED, That the City of Sheboygan shall proceed immediately to carry out the installation of reinforcing mains recommended by Mr. C. B. Stewart and such other plant extensions as are necessary to furnish an adequate supply of wholesome water.

HAWKINS CREEK TELEPHONE COMPANY,
WESTFORD TELEPHONE COMPANY
vs.
BADGER TELEPHONE COMPANY.

Submitted Feb. 18, 1914. Decided June 29, 1914.

The complainants petition the Commission to reëstablish physical connection between their lines and those of respondent at Hub City, and at what was formerly known as Rego's switch in Vernon county. It appears that the lines of the three companies were connected at these points up to about one year ago, at which time a disagreement occurred over the amount which the complainants should pay to the respondent for switching fees, with the result that the respondent disconnected its lines from the switches in question. The respondent telephone company connects with the exchange of the Richland Telephone Company at Richland Center—the complainant companies with the exchange of the Cazenovia Telephone Company at Cazenovia. It appears that this connection had existed some twelve years, that Cazenovia was the nearest market for some of respondent's subscribers and also that a connection was desirable for a number of complainants' subscribers in the neighborhood of Hub City.

Held: It is the conclusion of the Commission that the physical connection asked is (1) required by public convenience and necessity, and that (2) it will not result in irreparable injury to the owner or other users, nor (3) in substantial detriment to the service. Under such a state of facts sec. 1797*m*—4 of the statutes imposes upon the Commission the power and duty of requiring physical connection, and it is therefore so ordered.

Respondent contends that there would not be sufficient amount of business to warrant the building of a through line from Richland Center to Hub City and that the reconnection of the present loaded lines would materially impair the service of subscribers already on the line.

Held: It is not deemed advisable at this time to require the installation of a through line from Richland Center to Hub City, or Hub City to Cazenovia. For the present it is believed that the loaded rural lines, with some changes, will handle the traffic in a fairly satisfactory manner. However, the lines of the Hawkins Creek Telephone Company appear to be considerably overloaded. It is ordered that the Hawkins Creek Telephone Company proceed to reduce the number of its subscribers per line to twelve or less. It is further ordered that the Hawkins Creek Telephone Company and the Badger Telephone Company provide sufficient compensation for the operator of the Pleasant Ridge switch to insure adequate service.

It appears that respondent company did not contribute anything to the support of the switches in question during the two years previ-

ous to the disconnection. The respondent proposes to buy the Hub City switch and maintain and operate that and the one at Pleasant Ridge (Rego's switch) for the same fees charged it for switching service by the Richland Telephone Company with whom it connects at Richland Center.

Held: No good reason is seen why respondent should not bear its proportionate part of the expense of operation, provided it is so arranged that it receives a proper compensation for the service rendered. It is ordered that each of the three companies, complainants and respondent, pay to the operator of the Hub City switch the sum of $1.00 per telephone per year for each telephone on its lines which are or may become, by virtue of the order, directly connected to the switch, and that the Badger Telephone Company and the Hawkins Creek Telephone Company share equally in the expense of the operation and maintenance of the Pleasant Ridge switch. The Hub City switch is owned jointly by complainants and no adequate reason is seen for a change of ownership. Respondent's contention as to the switching fees it should receive does not appear well taken, since the amounts and costs of the service rendered in the two cases are entirely different. The parties to the proceedings are ordered to put in a flat rate charge of $1.00 per year for subscribers electing unlimited service, or a toll charge of 5 cts. per call for subscribers not so electing. Provision is to be made for the record of toll calls, and the collection of charges, in the manner prescribed. Calls through the Hub City switch between lines owned by the complainants in this case are to be handled free. Lists of subscribers electing unlimited service are to be kept in the manner prescribed and are to be open to public inspection. All elections of unlimited service rates are to be made at least six months in advance, and prepayment for this service six months in advance may be required so long as no discrimination is practiced between subscribers. Companies not parties to the case may obtain the benefit of these connections and charges by complying with the conditions prescribed. The routing of calls between subscribers of respondent and complainant companies is to be through one of the switches in question, subject to the prescribed exceptions.

The above entitled matter involves the question of physical connection between the Hawkins Creek Telephone Company and the Westford Telephone Company, complainants, and the Badger Telephone Company, respondent, at Hub City and at what was formerly known as Rego's switch, in Vernon county. It appears that the lines of the three companies were connected at these points up to about one year ago at which time a disagreement occurred over the amount which the complainants should pay to the respondent for switching fees, with the result that the respondent disconnected its lines from the above mentioned switches. The complainants in this case are seeking to have these connections restored.

Upon the disconnection by the Badger Company of their lines from these switches the matter was brought to the attention of

the Commission and an effort was made to arrive at a settlement informally. This effort failed, however, and on December 13, 1913, a formal complaint was entered jointly by the Westford Telephone Company and the Hawkins Creek Telephone Company against the Badger Telephone Company in which the following points were set forth:

"1. That the Hawkins Creek and Westford telephone companies are both public utilities engaged in the business of furnishing telephone service, local and long distance, in the counties of Richland and Sauk; that the principal place of business of both is at Cazenovia.

"2. That the Badger Telephone Company is also a public utility corporation furnishing local and long distance telephone service in Richland and Vernon counties, but chiefly in Vernon county.

"3. That large numbers of subscribers of said companies greatly need and desire service with the other; that such a connection is desired for business and social purposes.

"4. That up to May 19, 1913, the said companies maintained physical connection of their lines at Hub City, Richland county, and had so maintained such physical connection for some twelve years prior to said date, and also Pleasant Ridge connections for some years.

"5. That on said May 19, 1913, the respondent company, without just cause or reason, severed the physical connection between the petitioner and the respondent and refuses and neglects to restore such interchange of service, and severed the Pleasant Ridge connections about June 15, 1913.

"6. The petitioners therefore pray that the aforesaid Badger Telephone Company be required to answer such charges and after investigation and hearing an order be entered directing physical connection between petitioners and respondent for local and toll purposes on such terms and conditions as the Commission may deem proper and just."

The above complaint, entered in duplicate, one for the Hawkins Creek Telephone Company and one for the Westford Telephone Company, was signed by some thirty subscribers of the two complaining companies and seven of the respondent's subscribers. These signers reside principally in the neighborhood of the dividing line between the complainants' and respondent's lines.

On February 18, 1914, hearing was held in the matter at the office of the Commission at Madison. *Michael Neary* appeared for the Hawkins Creek Telephone Company and *W. C. Scholl, Frank Bowen* and *R. E. Fogo* appeared for the Badger Tele-

phone Company. Owing to an error the Westford Telephone Company did not receive notice of the hearing and hence was not represented at the hearing. However, an agreement was entered into among the three companies concerned by which the Westford Telephone Company waived its notice of investigation and notice of hearing and agreed that its case might be passed upon and decided wholly upon the testimony and papers filed informally and those filed in the case of the *Hawkins Creek Tel. Co. v. Badger Tel. Co.* and that the final order of the Commission might cover all questions raised and considered in both of said proceedings.

Following the hearing an investigation was made of the situation by the Commission. This investigation, together with the testimony taken in the case, has brought out the following in addition to the facts already presented.

The Hawkins Creek Telephone Company is a farmers' company operating two lines. One of these extends from the Hub City switch to the exchange of the Cazenovia Telephone Company at Cazenovia, a distance of about twelve miles, and serves eighteen patrons. The other line extends from Pleasant Ridge (about seven miles east of Hub City) approximately seven miles to the Cazenovia Telephone Company's exchange at Cazenovia and serves fifteen patrons. On the Pleasant Ridge end of this line is what is known as the Rego switch by which this line was formerly connected to one of the rural lines of the Badger Telephone Company running to Richland Center. The lines of the Hawkins Creek Telephone Company are constructed largely of native poles which appear to be standing in good shape and for the most part are fairly well anchored. However, the wire appears to have been poorly put up, the splices not being properly made and the wire often not properly tied in. This company pays $12.50 per year toward the maintenance of the switch at Hub City. Its rates for service are $7.00 per year, the subscriber owning and maintaining his instrument.

The Westford Telephone Company also operates in the territory between Hub City and Cazenovia, its lines approximately paralleling but lying to the north of the Hawkins Creek lines. This company operates six lines on which there is a total of seventy-six phones. Two of these lines run from Hub City to the exchange of the Cazenovia Telephone Company at Cazenovia, one having thirteen phones and the other eleven. One line

with eleven patrons runs out of the Hub City switch and connects with no other exchange. The remaining three lines connect with the Germantown switch which is owned and maintained entirely by this company. These three lines form part of the means of communication between Cazenovia and Valton, Wonewoc, and La Valle. The Westford company pays $25 per year toward the operation of the Hub City switch. Its rate is $6 per year, with the understanding that the subscriber own and maintain his own instruments.

The Cazenovia Telephone Company, although not a party to this case, is nevertheless a party to the completion of all calls between Cazenovia and the Badger Telephone Company's lines and hence a brief outline of the ownership and extent of operation of this company will be given. The company is owned jointly by the Hawkins Creek Telephone Company and the Westford Telephone Company. It operates a total of thirty-three phones all located within the village of Cazenovia. A twenty-five-line call-bell switchboard with thirteen lines in use is installed in a private residence. Two of the lines terminating in this board are owned by the Hawkins Creek Telephone Company and two by the Westford Telephone Company. The two Westford lines and one Hawkins Creek line run to the Hub City switch. The other Hawkins Creek line runs to Pleasant Ridge. One of the remaining lines is owned by the People's Telephone Company of Limeridge. This loaded line, on which there are five telephones, connects with the Limeridge exchange and at present forms part of one of the connections between Cazenovia and Richland Center which have been used since the disconnection of the Badger Telephone Company's lines.

The Badger Telephone Company, according to its annual report for the year 1913, operates 253 telephones in the rural territory north and west of Richland Center. Most of this company's lines run into the exchange of the Richland Telephone Company at Richland Center where switching service is furnished at $3 per telephone per year. One of this company's lines on which there are twelve subscribers follows a main lead north from Richland Center through Hub City to Yuba and another follows this main lead north as far as Buck Creek, there branching off northeast and terminates near what was formerly known as Rego's switch on Pleasant Ridge. Previous to May, 1913,

these lines were connected through switches directly to the Hawkins Creek and Westford telephone companies' systems, one line at Hub City and the other at Rego's switch. In both of the above instances the loaded lines of the company thus connected were used to a certain extent to handle calls from Cazenovia to Richland Center and reverse and they also served the wants of the neighboring farms on the lines connected directly to these switches. During the month of May, 1913, the Badger Telephone Company served notice upon the Hawkins Creek and Westford companies that thereafter a switching charge of $3 per telephone per year would have to be paid by the two small companies to the Badger company if they desired to retain the connections at Hub City and at Rego's switch. Upon the refusal of the two companies to agree to the payment of this amount the Badger company disconnected their lines from both switches.

The complainants in this case contend that there is a great necessity for a connection between their subscribers and the subscribers of the Badger company and in support of this contention present, signed to the complaint, the names of some thirty-seven of the subscribers of both the complainants and respondent; that the connection is important because one of the Badger subscribers is a doctor living at Rock Ridge which is located about two miles south of Hub City and that it is very necessary that their subscribers have some connection with this doctor; that there is a certain amount of business to be transacted between Cazenovia and the subscribers of the Badger Telephone Company and the Richland Telephone Company and that the route at present used for these calls is very round-about and unsatisfactory; that before the Badger Telephone Company disconnected its line from the Hub City switch the calls from the Badger line to the complainants' lines were many more than the calls in the reverse direction; that the Badger Telephone Company did not contribute anything to the support of these switches during the two years previous to the disconnection of their lines from the complainants' lines; that the terms upon which the respondent proposes to settle this controversy, which are, namely, that the Badger company buy and maintain the switch at Hub City and that the complainants pay to the Badger company a switching fee of $3 per telephone per year, are unreasonable and that such a sum as this would amount to approx-

imately $171 and would be greatly in excess of the cost to the Badger Telephone Company of producing its share of the service; that the cost to produce the complainants' share of this service would be as much or more than the cost to the Badger company for producing their share and therefore the complainants should be entitled to as great a return from the service as the respondent.

The Badger Telephone Company asserts, on the other hand, that its one line now running to Hub City has twelve subscribers connected and contends that the connecting of this loaded line with one of the complainants' loaded lines and the using of the combination as a through line between Cazenovia and Richland Center would materially impair the service of the subscribers already on this line; that the amount of business which would go over such a line would not warrant the building of a through line from Richland Center to Hub City; that the reconnection of the two rural lines at Rego's switch would make very unsatisfactory service over the combination of lines, on which there would be a total of twenty-seven phones; that the respondent pays the Richland Center Telephone Company $3 per telephone per year for switching service and therefore it considers that if it maintains and operates the switches at Hub City and Rego's and furnishes switching service to the Hawkins Creek and Westford telephone companies it is entitled to $3 per year per telephone from every phone connected directly to those switches.

Before proceeding further it may be well to state the powers and duties of this Commission with reference to the physical connection between telephone companies.

The statute provides that, (sec. 1797*m*—4)

"1. * * * every utility for the conveyance of telephone messages shall permit a physical connection or connections to be made, and telephone service to be furnished, between any telephone system operated by it, and the telephone toll line operated by another such public utility, or between its toll lines and the telephone system of another such public utility or between its toll line and the toll line of another such public utility, or between its telephone system and the telephone system of another such public utility, whenever public convenience and necessity require such physical connection or connections, and such physical connection or connections will not result in irreparable injury to the owners or other users of the facilities of such public utilities, nor in any substantial detriment to the service to be

rendered by such public utilities. The term 'physical connection', as used in this section, shall mean such number of trunk lines or complete wire circuits and connections as may be required to furnish reasonably adequate telephone service between such public utilities.

"2. In case of failure to agree upon such use or the conditions or compensation for such use, or in case of failure to agree upon such physical connection or connections, or the terms and conditions upon which the same shall be made, any public utility or any person, association or corporation interested may apply to the commission, and if after investigation the commission shall ascertain that public convenience and necessity require such use or such physical connection or connections, and that * * * such use or such physical connection or connections would not result in irreparable injury to the owner or other users of such equipment or of the facilities of such public utilities, nor in any substantial detriment to the service to be rendered by such owner or such public utilities or other users of such equipment or facilities, it shall by order direct that such use be permitted and prescribe reasonable conditions and compensation for such joint use, and that such physical connection or connections be made, and determine how and within what time such connection or connections shall be made, and by whom the expense of making and maintaining such connection or connections shall be paid.

"3. Such use so ordered shall be permitted and such physical connection or connections so ordered shall be made, and such conditions and compensation so prescribed for such use and such terms and conditions, upon which such physical connection or connections shall be made, so determined, shall be the lawful conditions and compensation for such use, and the lawful terms and conditions upon which such physical connection or connections shall be made, to be observed, followed and paid, subject to recourse to the courts upon the complaint of any interested party, as provided in sections 1797*m*—64 to 1797*m*—73, inclusive, and such section so far as applicable shall apply to any section arising on such complaint so made. Any such order of the commission may be from time to time revised by the commission upon application of any interested party or upon its own motion."

It will be observed that before the duty of making a physical connection of telephone lines under the statute is imposed upon telephone utilities, and can be enforced in any case, it must appear:

1. That the connection is required by public convenience and necessity;

2. That it will not result in irreparable injury to the owner or other users of the facilities of such public utilities; and

3. That no substantial detriment to the service will result therefrom.

In the case at hand it is urged that there is great necessity for a connection between the lines mentioned, especially for the neighboring farmers living in the vicinity of Hub City and Pleasant Ridge. The geographical location of some of the respondent's subscribers indicates that their position is well taken in contending that although they are the respondent's subscribers their nearest market is Cazenovia and hence a workable connection to Cazenovia is very much needed. Also there appear to be quite a number of the complainants' subscribers residing in the neighborhood of Hub City who are so located that it is desirable for them to have a connection to Richland Center. It is the presumption that when the subscribers of both the complainants and respondent in this locality agreed to take phones it was with the understanding that the service which they were to secure would extend to both Cazenovia and Richland Center. It appears therefore that in the disconnection of the lines in question the respondent in this case has deprived its subscribers as well as some of the complainants' subscribers of part of the service which they had enjoyed for a number of years and had a right to expect when they installed their telephones. The fact that this connection existed for some twelve years and gave comparative satisfaction up until a year ago, at which time it was disconnected only because of a disagreement between the companies involved relative to the amounts which should be paid by one company to the other for the connection, indicates that there exists a need for the connection. The contention of the respondent that at present there exists adequate through connection between Cazenovia to Richland Center cannot be upheld. Both of the routes via Hillsboro and via Limeridge are round-about ways, overloaded lines and involve the use of the lines of companies not interested in the completion of these calls. Taking all of the facts into consideration, the conclusion seems inevitable that, although the traffic will in all probability not be great, there exists a public necessity requiring a reconnection of the lines of the complainants and the respondent in this case.

To show that these physical connections will work no irreparable injury to either party to this case would seem to require little proof. As before stated, the connections have existed for a number of years and were disconnected only because the com-

panies involved could not agree upon the terms for continuing the connection.

It may be contended that the requiring of this physical connection will impair the service of the subscribers on the line since if the present loaded rural lines of these companies are connected, through calls from Cazenovia to Richland Center will pass over these lines as well as calls to and from subscribers of both companies who are connected directly to the lines in question. There is no question but that the traffic over the lines will increase to some extent and that the service to the subscribers will be somewhat impaired thereby. It is stated, however, that the amount of traffic which came through the Hub City switch or the Rego switch and was handled at the Richland Center exchange before the lines were disconnected was very small. If this is true the service will not be impaired to a large extent. On the other hand, calls to or from subscribers on these connecting lines must be considered to be an advantage to these subscribers and it is believed that the advantage to them of such a connection will outweigh any impairment of service which they may suffer as a result of the through calls.

It will therefore be ordered that the Badger Telephone Company reconnect its lines to the Hub City switch of the Hawkins Creek and Westford telephone companies and to the Pleasant Ridge switch of the Hawkins Creek Telephone Company.

The statute above quoted also provides that this Commission shall fix the terms and the manner of the physical connections which it orders made.

Inasmuch as the through traffic which will go over these lines is admittedly a comparatively small amount it is not deemed advisable at this time to require the installation of a through line from Richland Center to Hub City or from Cazenovia to Hub City. When the connections of the rural lines, which will be ordered, have been made and it becomes possible to obtain more definite traffic data this Commission will, upon request, investigate further the matter of the installation of a through toll line. For the present it is believed that the loaded rural lines, with some changes, will handle the traffic in a fairly satisfactory manner.

The lines of the Hawkins Creek Telephone Company appear to be considerably overloaded, there being eighteen patrons on one line and fifteen on the other. It will be only in the interest of good service to the subscribers on the Hawkins Creek lines to

require that this number per line be reduced. This company will therefore be given a reasonable time in which to decrease the number of its subscribers per line to twelve or less.

The cost of the Pleasant Ridge switch amounts to very little and likewise its maintenance and operation will not be very high. It is believed that it will be fair to both companies, i. e. the Badger Telephone Company and the Hawkins Creek Telephone Company, if each pay one-half the expense of the operation and maintenance of this switch.

The Hub City switch is owned jointly by the Hawkins Creek Telephone Company and the Westford Telephone Company and for the past few years has been maintained entirely by these companies. We see no adequate reason now for advising a change of ownership of this switch. So far as we are able to learn it has been fairly well maintained although the operators have been poorly paid. The compensation which the operators of this switch have received has been approximately $37.50 per year. Comparison of this sum with compensations received by operators of similar switches in other parts of the state indicates that this compensation is quite inadequate if prompt and efficient operating service is required. For the past two years, it is stated, the Badger Telephone Company has contributed nothing toward the support of this switch. We see no good reason why this company should not bear its proportionate part of this expense of operation, providing it is so arranged that this company receive a proper compensation for this service. To meet the above situations we consider it fair that each company which at the present time has, or by virtue of this order will have, lines connected to the Hub City switch, pay to the operator of that switch $1 per year for each telephone on those of its lines which run into the switch.

The contention by the Badger Telephone Company that it should receive $3 per year per telephone for switching service from each of the complainants' telephones directly connected to either switch does not appear to be justified. The argument advanced in support of this position, that because the Badger company is required to pay $3 per telephone per year to the Richland Telephone Company for switching service is entitled to make the same charge to the Westford and Hawkins Creek Telephone Companies' subscribers does not take into consideration the fact that the amounts and costs of the service rendered in the two

cases are entirely different. In the one case the Richland Telephone Company furnishes a considerable amount of expensive equipment as well as efficient operating labor, while even if the Badger company owned the Hub City and Pleasant Ridge switches, which it does not, its investment per telephone in this equipment would be comparatively small, as would also be the operating expense per telephone. It appears in this case that the service rendered to the complainants by the respondent by means of the switches at Hub City and Pleasant Ridge cost very little, if any, more than the service which is rendered to the respondent by the complainants and that therefore all companies concerned should share in the upkeep of the service. However, it is not deemed equitable that every subscriber of all companies which are parties to this case should be required to contribute to the support of this service but rather only those who make use of the service. A subscriber so located that he finds it desirable to have telephone connection to two markets instead of one must expect to pay a reasonable amount for this extra service.

The situation has been studied carefully and from the data at hand it appears reasonable that a charge of $1 per year be made for each subscriber of the companies made parties to this case desiring unlimited service through the switches in question and that a 5 ct. toll charge be made upon all calls through the switches from those subscribers not electing the above flat charge; that the operators at the switches be held responsible for the collection of all toll charges incident to this order; that each of the three companies which have been made parties to this case keep the operators of the switches in question supplied with strictly up-to-date lists of those of its own subscribers and of the subscribers of connecting companies who elect the unlimited service rate and that these lists be open to public inspection; that companies not parties to this case which desire to give their subscribers the advantage of the above unlimited flat rate service through the switches in question be allowed to do so upon making application for this service to that party to this case with which they connect directly and upon payment to this company of the $1 per year flat rate for each of their subscribers electing this service; that the names of such subscribers be immediately sent to the operators of the switches in question; that companies not parties to this case who refuse to be responsible for the collection of the toll charges provided for in this order be refused

connection; that, except in cases of emergency, calls from the subscribers of the complainants to the subscribers of the respondent in this case, or reverse, be routed through one of the switches in question. (This provision is not to apply to subscribers desiring to use the toll line facilities of any company which furnishes such equipment and makes a toll charge therefor.)

IT IS THEREFORE ORDERED:

1. That the Badger Telephone Company, respondent in this case, reconnect its rural line running into Hub City to the Hub City switch of the complainants in this case and reëstablish the service to and from this switch over this line subject to such provisions as are hereinafter stipulated;

2. That the Badger Telephone Company reconnect its rural line which extends to Pleasant Ridge with the Hawkins Creek Telephone Company's rural line which extends into the same locality by means of a switch installed in some conveniently located farm house, and reëstablish the service to and from this switch over this rural line subject to such provisions as are hereinafter stipulated;

3. That all companies which are parties to these proceedings put into effect the following optional rates for service through these switches, which rates shall be in addition to the regular rates for service charged by these companies:

$1 per year for subscribers who elect to have unlimited service from respondent's lines to complainants' lines, or reverse, through either or both of the switches.

5 cts. per call toll charge for subscribers not electing the unlimited service at the above unlimited service rate.

Calls through the Hub City switch between lines owned by the complainants in this case shall be handled free.

4. That the operators of the switches shall be held responsible for an accurate record of all toll calls through their switch and be entitled to 2 cts. of the 5 ct. toll charge. The remaining 3 cts. of this toll charge shall go to the company originating the call, which company shall be responsible for the collection of the full amount of the toll charge;

5. That each of the three companies made parties to these proceedings shall keep the operators of the switches in question supplied with strictly up-to-date lists of those of its own subscribers and of connecting companies' subscribers who elect the unlimited service rate of $1 per year and that these lists shall be open to public inspection;

6. That each company made a party to this case shall require that all elections of the unlimited service rate shall be made at least six months in advance and may at their option also require payment for this service six months in advance so long as no discrimination between subscribers of the same company is practiced.

7. That companies which are not parties to this case desiring for their subscribers the advantages of the above unlimited service flat rate of $1 per telephone per year may obtain this rate by making application for same to that party to this case with which they connect directly and by paying the $1 charge per year for each subscriber electing to come under this rate. The names of such subscribers shall be sent immediately to the operators of the switches in question. Companies not parties to this case refusing to be responsible for the collection of the toll charges provided for in this order shall be refused connection by the operators of the switches;

8. That calls from the subscribers of the complainants to subscribers of the respondent in this case, or reverse, shall always be routed through one of the switches in question, except in cases of emergency or in case the subscriber wishes to make use of the toll line facilities of such companies as make regular toll charges for such calls;

9. That the Badger Telephone Company and the Hawkins Creek Telephone Company shall share equally in the expense of the operation and maintenance of the Pleasant Ridge switch and provide sufficient compensation to the operator of this switch to insure adequate service through the switch;

10. That each of the three companies to this case shall pay to the operator of the Hub City switch the sum of $1 per telephone per year for each telephone on its lines which are, or which by virtue of this order hereafter become, directly connected to this switch;

11. That the Hawkins Creek Telephone Company shall proceed to reduce the number of its subscribers per line to twelve or less.

Ten days is considered sufficient time within which to comply with all sections of this order except section 11. September 1, 1914, is deemed to be a reasonable date at which the changes ordered in section 11 shall be completed.

O. T. HUGHES ET AL.
vs.
WATERTOWN WATER WORKS.

Submitted Feb. 24, 1914. Decided June 29, 1914.

The petitioners allege that the rates of the municipal water works in Watertown, Wis., are discriminatory and preferential and improperly adjusted, and that the city has failed to put into effect a schedule suggested by the Commission. Petitioners ask that a schedule of rates for water service be established.

It appears that the recommendations of the Commission relating to the elimination of special rates and of joint billing of separate meters have been carried out. But objection is offered to the adoption of a policy requiring the city to pay for fire protection. It is contended the only proper charge for fire protection would be a charge for the water actually used, and attention is called to the fact that a considerable part of the property in the city is beyond the limits to which fire protection is furnished. It seems that special rates are now applied to certain schools and city buildings. No such rates are found in the rate schedule filed with the Commission.

Held: An analysis of the rate situation shows that the present distribution of expenses as between fire and general service is not a correct one. A further defect is found in the fact that the existing rates for general service are regressive. With respect to the charge for fire service, the Commission has repeatedly pointed out that this charge is determined principally by the amount of the investment apportionable to that branch of the service. Respondent's contention that a considerable part of the property in the city is beyond the fire protection limits, is not without merit. When conditions are normal, it is undoubtedly correct for cities to bear the cost of fire protection. However, in the present case it has seemed that the manner in which the fire protection cost should be borne should not be prescribed by the order. The respondent is ordered to discontinue its present rates for metered water and substitute therefor one of the three schedules proposed according to the amount it desires to assume toward bearing the burden of fire protection.

Held: The special rates which were applied to certain schools and city buildings without having been filed with the Commission are unjust, unreasonable, and result in injury. Under the provisions of the law no utility is permitted to make or give any undue preference or advantage to any particular consumer, or subject any consumer to any undue disadvantage in any respect by means of a less rate than that named in the published schedule.

Complaint in this case was filed November 28, 1913, by O. T. Hughes and other residents of Watertown, Wis., and is directed against the Watertown municipal water works. The petitioners allege that the rates of the municipal water works are discriminatory and preferential and improperly adjusted, and that the city has failed to put in effect a schedule suggested by this Commission. Petitioners ask that a schedule of rates be established for water service.

Hearing in this matter was held at Madison, February 24, 1914. Appearances were: For petitioners *O. T. Hughes;* for respondent, *H. G. Grube,* mayor, *Wm. F. Voss,* city clerk, and *Charles Mackay,* superintendent of the water works.

This case has arisen out of an informal investigation conducted by the Commission upon the request of certain members of the Board of Water Commissioners of the city of Watertown. An informal report was submitted by the Commission. As the informal report covered practically the same ground as should be covered by a formal investigation, it is included here, with the exception of a table showing consumers' bills under present and proposed rates, in which it appears that an error was made in computing minimum bills under present rates upon a quarterly basis, instead of upon an annual basis, in accordance with the practice followed in Watertown. Following is a portion of the report:

"The Commission has been requested to investigate the rate situation of the City Water Works Department of the city of Watertown and to recommend equitable rates for water.

"The water rates now in force are as follows:

"*Public Service:*

City sprinkling and other public service, meter rate 6 cts. per M gallons.

"*Commercial Service:*

"Meter rates.

"Minimum annual charge $5.00.

"When daily consumption is

100 to 300	gallons	per	1,000 gallons	$0.25
300 to 1,000	"	"		.20
1,000 to 6,000	"	"		.15
6,000 to 14,000	"	"		.12
14,000 to 20,000	"	"		.10
20,000 to 30,000	"	"		.08
30,000 to 50,000	"	"		.06½
Over 50,000	"	"		.06

"Flat Rates

Building purposes for 1,000 brick, wetting and making mortar	$0.08
" " Stone per cord	.08
" " cement blocks per cord	.08
" " 100 sq. yds. of plastering	.15
" " including walks and gutters, cement and concrete work per sq. yd	.02
Cisterns and tanks, exclusive of labor, 50 bbls. or less	1.00
Each additional 50 bbls	.50

"Payment of rates for building purposes to be made in advance. Bills due and payable quarterly on the first days of March, June, September and December in each year.

"Special rates in force but not filed with the Commission:

"Parochial school and colleges—10 cts. per M gallons:

"Public schools and city buildings—6 cts. per M gallons.

VALUATION.

"A valuation of the physical property of the utility has been made by the Commission. This valuation is of date June 30, 1912. The following table presents a summary of the appraisal, and shows a division of the total property as between domestic and industrial service and fire service.

TABLE I.

TENTATIVE VALUATION.

WATERTOWN MUNICIPAL WATER WORKS.

As of June 30, 1912.

	Total.		Apportioned to			
			Domestic and industrial.		Fire.	
	Cost new.	Present value.	Cost new.	Present value	Cost new.	Present value.
A. Land	$12,100	$12,100	$6,100	$6,100	$6,000	$6,000
B. Transmission and distribution	128,472	135,838	67,249	65,769	71,223	70,069
C. Buildings and miscellaneous structures	29,427	27,331	22,104	20,968	7,323	6,363
D. Plant equipment	8,179	3,774	3,026	1,397	5,153	2,377
E. General equipment	486	244	328	165	158	79
Total	$188,664	$179,287	$98,807	$94,399	$89,857	$84,888
Add 12% (see note below)	22,640	21,514	11,857	11,327	10,783	10,187
Total	$211,304	$200,801	$110,664	$105,726	$100,640	$95,075
F Paving	.....	.....	.....	.....	.....	.....
Total	$211,304	$200,801	$110,664	$105,726	$100,640	$95,075
H. Materials and supplies	1,876	1,876	1,305	1,305	571	571
Total	$213,180	$202,677	$111,969	$107,031	$101,211	$95,646
	100%	100%	52.5%	52.8%	47.5%	47.2%

NOTE:—Addition of 12 per cent to cover engineering, superintendence, interest during construction, contingencies, etc.

INCOME ACCOUNTS.

"The following table discloses comparative operating statements of the Watertown City Water Department for the year ended December 31, 1907, and years ended June 30, 1909, 1910, 1911, and 1912, as reported to the Commission:

TABLE II.

COMPARATIVE OPERATING STATEMENTS.

WATERTOWN CITY WATER WORKS.

	Year ended Dec. 31, 1907.	Years ended June 30.			
		1909	1910	1911	1912
Income Account:					
Commercial sales	$9,166 81	$11,194 57	$15,248 07	$16,234 37	$18,497 76
Industrial sales	.....	3,098 89	1,889 92	1,427 86	1,422 47
Hydrant rentals	.....	.....	.....	.....	.....
Street sprinkling	.....	911 34	978 32	810 81	650 67
Sales to municipal departments	.....	.....	539 22	468 15	568 00
Miscellaneous	900 00	243 87	354 97	244 14	318 81
Total	$10,066 81	$15,448 67	$19,010 50	$19,185 33	$21,457 71
Pumping expenses	$7,685 65	$7,039 27	$11,220 93	$9,560 40	$7,678 87
Distribution	192 65	3,275 88	2,558 32	2,695 39	2,123 92
Commercial	.....	.....	.....	.....	.....
Total direct	$7,878 30	$10,315 15	$13,779 25	$12,255 79	$9,802 79
General	$360 00	$2,467 37	$1,902 24	$2,072 51	$1,323 06
Undistributed	.....	80 60	53 77	430 79	260 75
Total	$360 00	$2,547 97	$1,956 01	$2,503 30	$1,583 81
Taxes	.....	.....	.....	.....	.....
Grand total	$8,238 30	$12,863 12	$15,735 26	$14,759 09	$11,386 60
Amount available for dep. and int.	$1,828 51	$2,585 55	$3,275 84	$4,426 24	$10,071 11
Estimated value of plant (C. N.)	$172,033	$184,079	$189,207	$195,451	$ 02,677
Rate of return for dep. and int. on above	1.06%	1.40%	1.73%	2.26%	4.98%

"The following table discloses the detailed operating statement for the year ended June 30, 1912, as reported to the Commission by the City Water Department.

TABLE III.

WATERTOWN MUNICIPAL WATER WORKS.

OPERATING STATEMENT.

For the year ended June 30, 1912.

Operating Revenues	$21,457.71
Pumping:	
Superintendent	$1,108.30
Pump labor	2,295.00
Steam generated	3,920.03
Lubricants	246.25
Misc. pumping station sups. & exps	29.35
Maint. steam power pumping	30.90
Maint. fixtures and grounds	49.04
Total	$7,678.87

Distribution:	
Meter and fittings dept. sups. and exps	$899.25
Maint. reservoirs, standpipes, etc	152.34
Maint. distribution mains	185.51
Maint. service	833.59
Maint. hydrants	8.50
Maint. meters	44.73
Total	$2,123.92
General:	
Salaries general officers	$305.00
" " office clerks	485.00
Misc. " " supplies and expenses	137.86
" " expenses	365.20
Total	$1,323.06
Undistributed:	
For drawing plans	$150.00
Insurance	80.00
Stationery and printing	20.75
Total	$260.75
Total expenses	$11,383.60
Net income	$10,071.11

"Total operating revenues do not include any earnings from fire service, the water works fund receiving no income or credit for hydrant rentals or for water used for flushing sewers, automatic flush tanks, fountains, etc.

"For purposes of ascertaining the equitableness of the rates a number of changes must be made in the income account statement previously shown. To the total direct expenses $200 for commercial expenses has been added. An allowance for taxes (the same as if it were a private plant), and depreciation and interest amounting to $11,807.77 has been included in the expenses of operation. The total of the expenses as used in our computations then was as follows:

Pumping	$7,678.87
Distribution	2,123.92
Commercial	200.00
Total direct	$10,002.79
General	1,323.06
Undistributed	260.75
Total above	$11,586.60
Taxes, depreciation and interest	11,807.77
Grand total	$23,394.37

"It might be said here that the city has taken no steps to preserve the integrity of the investment. No depreciation allow-

ance has been made and no depreciation reserve maintained to take care of the depreciation of the physical property representing its capital investment.

"Each of the various departments of the service should bear its proper burden of expense. The total operating expenses of the plant must be distributed between that class which depends on the output of water and varies with this output, and that class which is independent of this output and which does not vary with it. These expenses in turn must be apportioned between the commercial and industrial service and the fire service.

"The Commission has thoroughly discussed these costs in numerous decisions and they will not be gone into in detail at this time. The total operating expenses, excluding taxes, depreciation and interest, amounting to $11,586.60 were found to be apportionable as follows:

Capacity	$4,373.35
Output	5,153.67
Direct to fire	10.08
Direct to general	2,049.50
Total	$11,586.60

"It is necessary to make a separation of the capacity and output costs chargeable to private consumers and to the city of Watertown in order to get at the costs chargeable to each. In Table I is shown the division between domestic and industrial service and fire service. The domestic and industrial service includes all city uses except for fire protection. From this table it is seen that about 52.5 per cent of the cost new and 52.8 per cent of the present value of the water works plant are charged against the domestic and industrial service, while 47.5 per cent of the cost new and 47.2 per cent of the present value are charged against fire service.

"It is necessary before an apportionment of the operating expenses as between classes of service can be made, to know the demands of the different services and the amount of water sold or delivered to each. It appears in this case that the fire service is responsible for 63 per cent and the domestic and industrial service 37 per cent of the total demand. From the report of the utility to the Commission for the year ended June 30, 1912, it is found that at the end of the year there were 1,117 commercial, 36 industrial and 13 public consumers, or a total of 1,166, excluding hydrants, all metered with the exception of 5 public fountains and troughs. An examination of the consumer records at Watertown indicates that all the consumers are metered with the exception of four barns, which are on a flat rate basis. The distribution of consumers otherwise is about as indicated above. The exact number of hydrants now connected is not known, but at the end of 1912 it appears some 179 were connected to the mains.

"A tabulation was made of the water meter register for the calendar year 1911 showing the distribution of the metered water sold over various groups. These data are shown in the following table:

"TABLE IV.

"WATER CONSUMER DATA.

"WATERTOWN MUNICIPAL WATER WORKS.

	First 1,000 cu. ft. used per quarter.	Next 4,000 cu. ft. used per quarter.	Next 20,000 cu. ft. used per quarter.	Excess.	Total consumption.
First quarter	724,045	545,240	595,890	4,620,820	6,485,995
Second "	737,500	515,980	585,190	3,725,630	5,564,300
Third "	841,450	617,450	461,960	3,098,580	5,019,440
Fourth "	798,271	570,508	558,020	3,046,740	4,973,539
Total	3,101,266	2,249,178	2,201,060	14,491,770	22,043,274
	14.1%	10.2%	10.0%	65.7%	100%
Domestic:					
1st quarter	503,260	138,000	810	.....	642,070
2nd "	511,050	118,600	170	.....	629,820
3rd "	609,880	186,870	2,570	.....	799,320
4th "	562,971	152,648	1,060	.....	716,679
Total	2,187,161	596,118	4,610	.....	2,787,889
	78.45%	21.38%	.17%	.....	100%
Commercial and Industrial:					
1st quarter	215,475	385,330	511,480	880,220	1,992,505
2nd "	220,300	375,310	493,420	669,830	1,758,860
3rd "	226,020	405,580	370,970	208,820	1,211,390
4th "	229,300	391,960	464,790	293,070	1,379,120
Total	891,095	1,558,180	1,840,660	2,051,940	6,341,875
	14.05%	24.57%	29.02%	32.36%	100%
Railroads:					
1st quarter	5,310	21,910	83,600	3,740,600	3,851,420
2nd "	6,150	22,070	91,600	3,055,800	3,175,620
3rd "	5,550	25,000	88,420	2,889,760	3,008,730
4th "	6,000	25,900	92,170	2,753,670	2,877,740
Total	23,010	94,880	355,790	12,439,830	12,913,510
	.18%	.73%	2.76%	96.33%	100%

"The total pumpage for the year ended June 30, 1912, was reported to be 304,065,938 gallons. The consumption of this water was reported to be as follows:

Commercial sales	177,850,000	gals.
Industrial sales	22,560,000	"
Public schools, city hall, etc	9,470,000	"
Total above	209,880,000	"
Sprinkling streets	10,835,000	"
Total consumed	220,715,000	"
Misc. sales, uses and lost and unaccounted for	83,350,938	"
Total pumped	304,065,938	"

"Our analysis of the consumer data submitted as analyzed and shown in Table IV varies materially from the above figures. The 22,043,274 cubic feet, or 165,324,555 gallons, indicated sold to metered consumers for the calendar year, falls short by 44,555,445 gallons of equaling the consumption of the same consumers for the fiscal year. No explanation of this discrepancy has been advanced by the utility. We have carefully checked all the records of consumption which were submitted, but have been unable to discover the cause for this variation.

COST OF SERVICE.

An apportionment of the output and capacity expenses was made between the domestic and industrial service and the fire service. It was found that of the total demands of the two classes of water service, the fire service demand was about 63 per cent and the demand of all other services about 37 per cent. Of the total water used, it was estimated that the fire service was responsible for only about 2 per cent of the amount, so that the fire service was charged with 2 per cent of the output expenses.

"Taxes, interest and depreciation amounted in all to $11,807.77. Divided between fire and general service upon the basis of the apportionment of the property, the taxes, interest and depreciation chargeable to fire service amounted to $5,596.88 and to general service $6,210.89.

"The following table shows the results of the apportionment of all expenses of operation, excepting taxes, depreciation and interest.

	Total.	Capacity.	Output.	Consumer.
Fire service	$2,868 37	$2,755 21	$103 08	$10 08
General service	8,718 23	1,618 14	5,050 59	2,049 50
Total	$11,586 60	$4,373 35	$5,153 67	$2,059 58

"The total cost of each class of service is made up as follows:

	Expenses of operation.	Taxes, depreciation and interest.	Total.
Fire service	$2,868 37	$5,596 88	$8,465 25
General service	8,718 23	6,210 89	14,929 12
Total	$11,586 60	$11,807 77	$23,394 37

"The total cost of fire service, towards which the city has paid nothing, amounts to $8,465.25. The total cost of general service, amounting to $14,929.12, is $6,528.59 less than the revenue from this service. The total expenses of general service, including taxes, depreciation and interest, are divided among capacity, output, and consumer, as follows:

Capacity	$3,959.65
Output	7,820.64
Consumer	3,148.83
Total	$14,929.12

"Consumer expenses need not be further subdivided between those with which all general consumers are concerned and those which are due to metered users only, as it appears that there are only four small consumers on a flat rate basis.

"The facts outlined above clearly indicate that the present distribution of the cost of water service is not an equitable one. The city is not bearing its proper share of the cost. Each class should pay that portion of the total expense for which it is responsible, in order for the water rates to be just for all classes of consumers and service. The general service is paying a total somewhat above the cost of that service, although the excess obtained from general service does not equal the deficiency from the fire service.

"Instead of treating the interest, depreciation and taxes on meters as a lump sum, we have excluded the total amount of these expenses from the total expenses of general service as determined above, and made an allowance for each meter of the different sizes, to provide for these items. With these expenses taken from the total cost of the service shown above, the distribution of that cost over the various classes of expenses is as follows:

Capacity	$3,959.65
Output	7,820.64
Consumer	2,049.50
	$13,829.79

"Consumer expenses may be divided over the average number of consumers which will be the average number of metered consumers for the year under consideration, which is 1,155.

With taxes, depreciation and interest on meters based upon the values of the various sizes of meters the consumer expenses are as shown below:

TABLE V.

Size of meter.	Taxes, depreciation & interest 10%.	Consumer expenses.	Total expenses.
⅝ inch	$0 90	$1 76	$2 66
¾ "	1 25	1 76	3 01
1 "	1 70	1 76	3 46
1½ "	3 50	1 76	5 26
2 "	5 40	1 76	7 16
4 "	15 00	1 76	16 76
6 "	32 00	1 76	33 76

"With the rate for general service made in the form of a service charge and a charge for water used, the service charge would meet the consumer expenses and a part of the capacity expenses. The remainder of the capacity expenses and the output expenses would be met by the charge for water.

"With consumer expenses as shown above, the service charge should be about as shown in the following table. The table also indicates the amount of capacity expenses which each size of meter would be assessed by the service charge.

TABLE VI.

Size meter.	Consumer expenses.	Annual service charge.	Capacity costs met by service charge.
⅝ inch	$2 66	$3 00	$0 34
¾ "	3 01	4 00	0 99
1 "	3 46	6 00	2 54
1½ "	5 26	8 00	2 74
2 "	7 16	12 00	4 84
4 "	16 76	32 00	15 24
6 "	33 76	60 00	26 24

"In estimating what the revenue would be under a meter rate as outlined in this report, the following table has been prepared to show the total of capacity expenses which would be provided by the service charge as outlined above:

TABLE VII.

Size	Number.	Capacity expenses per meter met by service charge.	Total capacity expense met by service charge.
⅝ inch	1,109	$0 34	$377 06
¾ "	20	99	19 86
1 "	12	2 54	30 48
1½ "	7	2 74	19 18
2 "	5	4 84	24 20
4 "	1	15 24	15 24
6 "	1	26 24	26 24
Total	1,155		$512 20

"With the total capacity and output expenses amounting to $11,780.29 the total revenue to be obtained from the charge for water would be $11,268.09. With a consumption of 166 million gallons per year this is equivalent to an average rate of 7.09 cts. per 1,000 gallons or 5.3 cts. per 100 cubic feet.

"As stated previously, the distribution of sales of water as shown by an analysis of the water consumer statistics was as follows:

"In the 1st 1,000 cu. ft. per quarter	14.1%	3,101,266 cu. ft.
" next 4,000 " "	10.2%	2,249,178 "
" " 20,000 " "	10.0%	2,201,060 "
Excess	65.7%	14,491,770 "
	100.0%	22,043,274 "

"Revenue from the charge for water under rates as outlined in the following summary would be as shown below:

3,101,266	cu. ft. at 10 cts.	$3,101.30
2,249,178	" " 7 "	1,574.44
2,201,060	" " 5 "	1,100.50
14,491,770	" " 4 "	5,796.72
22,043,274		$11,572.96

"The total of output expenses and of that part of capacity expenses which should be met by the charge for water, as determined above, was $11,268.09. The service charge as previously outlined provides for a part of the capacity expenses and consumer expenses, the total revenue from the service charge being about $3,687. The rates as suggested, it appears, would provide a probable revenue of $15,259.96 to meet expenses amounting to $14,929.12.

"The foregoing analysis of the rate situation in Watertown shows that the present distribution of the expenses as between fire and general service is not a correct one. The existing rates for general service are also defective, because the rates are re-

gressive. That is, under the existing schedule it is possible to use a larger amount of water for a smaller payment than a less amount.

"It has been thought advisable in this case to work out an alternate rate with a provision for a minimum bill. From the consumer costs and calculations based upon the cost of meters actually used it is possible to arrive at a minimum charge which will fairly measure the costs that must be provided for in this minimum charge. As practically every consumer paying the minimum bill has used considerable water during the period and hence incurred some output expenses, the minimum bill to be charged must include an allowance for this consumption. If this is not done all water used would really be received free of charge. By computing taxes, depreciation and interest on the value of the meter, adding thereto proper maintenance charges and a fair allowance for water used, a minimum charge can be determined with considerable accuracy that will guarantee to the company its consumer expenses. The minimum charge, however, cannot be fixed regardless of the size of meters or the consumer's demand, as that would ignore the fact that the size of the meter determines whether the investment is large or small. Discrimination results, if the minimum charge is made an average amount, against the consumers who use the small sizes.

"To design a schedule of water rates for Watertown which would correct the present inequalities and do away with the present discriminatory features and at the same time not disturb the situation more than appears absolutely necessary has been difficult.

"The schedule designated No. 2 appears somewhat better adapted to conditions as found in Watertown than schedule No. 1. The latter will cause a slight increase to those consumers using between 500 and 875 cubic feet per quarter, but a substantial decrease to all consumers using amounts other than between the limits indicated. A table is appended showing comparisons of the quarterly bills under the old rate and under the two suggested rates. The regressive features of the old rate are indicated plainly in column two.

"A discount provision has been included in the rates suggested, but the water department can either retain or eliminate this feature as they think best. In case the discount provision is retained a period of ten to twenty days should be allowed in which the discount is applicable.

"*Rate No. 1.*

Service charge—payable quarterly

⅝ inch meter	$0.75
¾ " "	1.00
1 " "	1.50
1½ " "	2.00
2 " "	3.00
4 " "	8.00
6 " "	15.00

Charges for water.

For the 1st 1,000 cu. ft. per quarter 11 cts. gross 10 cts. net per 100 cu. ft.

For the next 4,000 cu. ft. per quarter 8 cts. gross 7 cts. net per 100 cu. ft.

For the next 20,000 cu. ft. per quarter 6 cts. gross 5 cts. net per 100 cu. ft.

Excess 5 cts. gross 4 cts. net per 100 cu. ft.

"*Rate No. 2.*

Minimum Bill—payable quarterly

⅝ inch meter	$1.25
¾ " "	1.50
1 " "	2.00
1½ " "	2.50
2 " "	4.00
4 " "	9.00
6 " "	16.00

Charges for water.

1st	1,000	cu. ft.	per quarter,	minimum bill.					
Next	4,000	"	"	9 cts.	gross,	8 cts.	net	per	100 cu. ft.
"	20,000	"	"	7	"	6	"	"	"
Excess				5¼	"	4¼	"	"	"

"The attention of the City Water Department of Watertown is called to sec. 1797*m*—33, ch. 499, laws of 1907, as follows:

"'It shall be unlawful for any public utility to charge, demand, collect or receive a greater or less compensation for any service performed by it within the state or for any service in connection therewith than is specified in such printed schedules including schedule of joint rates, as may at the time be in force, or to demand, collect or receive any rate, toll or charge not specified in such schedule. The rates, tolls and charges named therein shall be the lawful rates, tolls and charges until the same are changed as provided in this act.'

"Such special rates as are now applied to certain schools and city buildings are unjust and unreasonable, and result in injury. The rate schedule filed with the Commission does not show such special rates. Under the provisions of the law no utility should make or give any undue preference or advantage to any particular consumer as has been done in Watertown or subject any consumer to any undue disadvantage in any respect, by means of a less rate than that named in the published schedule. Any consumer who knowingly receives any concession such as receiving the service at a less rate is liable to a fine. The schedules suggested in this report will, if adopted, eliminate not only the discriminatory rates but the regressive features of the old schedule.

"The computation of probable revenue under each suggested rate schedule is shown below:

COMPUTATION OF PROBABLE REVENUE.

COMMERCIAL SERVICE.

	No. 1. Service charge. No. 2, Minimum bill.	Output charge.	Total revenue.
1	$3,687 00	$11,572 96	$15,259 96
2	6,011 00	9,279 01	15,290 01

TOTAL REVENUE.

	No. 1.	No. 2.
General service	$15,259 96	$15,290 01
Fire protection charge to city	8,500 00	8,500 00
Total	$23,759 96	$23,790 01

"In view of the facts as discussed herein, we feel that an annual charge for fire service protection should be paid, and should amount to a figure closely approximating the cost determined herein, or about $8,500. It is thought that this amount will also be sufficient to take care of the street sprinkling service. The rate for commercial metered consumers should be one of the two rates suggested, this to apply to schools and city buildings also."

It is understood that the recommendations of the Commission relating to the elimination of special rates and of joint billing of separate meters have been carried out. Objection has, however, been raised to the adoption of the other changes recommended. Objection is offered to the adoption of a policy of requiring the city to pay for fire protection. City officials seem to be of the opinion that the only charge which could properly be made for fire protection is a charge for the amount of water actually used for fighting fires, which would amount to only a few dollars per year. It has been repeatedly pointed out in decisions of the Commission that the charge to be made for fire protection is determined principally by the amount of the investment apportionable to fire service and by the fixed expenses which are determined by the demands which the plant must meet or by the investment. This was also explained verbally to the city's representatives at the time of the hearing.

An objection offered by the city's representatives to the policy of having the city pay for fire protection and so relieve the water users of this expense, is that a considerable part of the property in the city is beyond the limits to which fire protection is furnished and that a policy of charging the city for fire protection would throw a part of the burden of such protection upon taxpayers who receive no benefit from the service. The conclusion seems to be that the city officials believe that the distribution of the burden of fire protection costs among the actual water users in accordance with the distribution of the costs of general service is more equitable than would be its distribution among the taxpayers as a part of the tax levy, because many of the taxpayers are not directly benefited. This view of the matter is not without merit. Probably the best basis for distributing the cost of fire protection, if such a basis could actually be applied, would be one by which the cost would be distributed, within the protected area, according to the service furnished. In Watertown it appears that neither of the two bases available will remove all grounds for objection, but it will probably be found that the city should assume at least a part of the burden of fire protection, and, to a corresponding degree, decrease the charges to general consumers.

Where conditions are normal it is undoubtedly correct for cities to bear the cost of fire protection. Such protection constitutes a service rendered to the city for which a portion of the investment in the utility, and usually a large portion, together with a portion of the operating expenses, has been incurred. The city, as related to this branch of the service, is a consumer. The fact that the city, in paying for the service, is unable to distribute the burden among the taxpayers according to the benefits conferred, does not alter the fact that the city, as distinct from the general users of water, should be responsible for the payment of the costs incurred. In this case, however, it has seemed that the manner in which this fire protection cost should be borne should not be prescribed by order. Rate schedules will be worked out based on three assumptions:

1. That the city will pay the full cost of fire protection.
2. That the city will pay nothing for fire protection.
3. That the city will assume one-half of the burden of fire protection costs.

The schedules outlined in the informal report submitted by the Commission were based upon the assumption that the city would

pay for fire protection in accordance with the cost of the service. As shown in that report, two schedules were proposed, one of which contained a "service charge" and one of which was a "minimum bill" schedule. From a further study of the situation in Watertown it appears that a schedule of the latter type will be better adapted to the local conditions than one containing the "service charge."

In the schedule as suggested by the Commission the minimum charge was applied quarterly. The practice of the city has been to apply this charge on an annual basis so that, during the last quarter, consumers were required to pay enough to make a total of $5.00 for the year.

At the hearing, representatives of the city attempted to show that the rate as fixed by the Commission was higher than that actually in use at Watertown. Apparently they failed to comprehend the fallacy of the method which they used, in that no comparison of annual charges was made. In all cases comparison was made of quarterly bills for quarters in which no minimum had been applied by the city. If comparisons had been made for quarters in which the city applied the minimum it would have been found that, for such quarters, the city's rate was much higher than the one recommended by the Commission. A few instances taken from the consumers' register of the utility will illustrate:

Consumer's number.	Cubic feet used.				Amount at city rate.					Bill under suggested rate				
	Quarter.				Quarter.				Total for year.	Quarter.				Total for year.
	1	2	3	4	1	2	3	4		1	2	3	4	
392	500	480	620	430	$0.94	$0.90	$1.16	$2.00	$5.00	$1.25	$1.25	$1.25	$1.25	$5.00
400	350	310	780	460	.66	.58	1.46	2.30	5.00	1.25	1.25	1.25	1.25	5.00
401	250	470	590	350	.47	.88	1.11	2.54	5.00	1.25	1.25	1.25	1.25	5.00
402	380	290	510	410	.71	.54	.96	2.79	5.00	1.25	1.25	1.25	1.25	5.00
407	250	200	550	270	.47	.38	1.03	3.12	5.00	1.25	1.25	1.25	1.25	5.00
900	2,690	2,400	2,850	1,480	5.04	4.50	5.34	2.78	17.66	2.60	2.37	2.73	1.63	9.33
989	3,420	3,090	4,110	3,600	6.41	5.79	6.17	6.75	25.12	3.19	2.92	3.74	3.33	13.18
782	1,490	1,700	2,000	5,070	2.79	3.19	3.75	7.61	17.34	1.64	1.81	2.05	4.49	9.99
1,032	700	1,090	1,160	940	1.31	2.04	2.18	1.76	7.29	1.25	1.32	1.38	1.25	5.20
759	830	1,090	1,030	950	1.56	2.04	1.93	1.78	7.31	1.25	1.32	1.27	1.25	5.09
301	770	1,710	1,100	900	1.44	3.21	2.06	1.69	8.40	1.25	1.82	1.33	1.25	5.65
1,096	790	890	1,700	970	1.48	1.67	3.19	1.82	8.16	1.25	1.25	1.81	1.25	5.56
535	5,510	5,600	6,380	6,340	8.26	8.40	9.57	9.51	35.74	4.76	4.81	5.28	5.25	20.10
521	10,940	4,120	12,000	16,810	16.41	6.18	18.00	18.91	59.50	8.01	3.75	8.65	11.54	31.95
.....	255,300	170,000	8,880	26,100	158.18	127.50	13.32	29.36	323.36	114.33	78.08	6.78	16.92	216.11
2	31,800	32,900	26,300	23,000	35.77	37.01	29.59	25.88	128.25	19.34	19.81	17.00	15.25	71.40

All of the foregoing have been computed as they would be with 5/8" meters. A few of the larger consumers probably have larger meters which would make their bills under the suggested rates somewhat larger than those shown, but in practically all cases the rates recommended by the Commission are as low or lower than the rates in force. The only exception would come in the case of consumers using moderate amounts of water but using the greater part of it during the last quarter of the year. For example, if a consumer used 100 cubic feet of water during each of the first three quarters and 2,000 cubic feet during the fourth quarter his total charge for the year under the city's rate would be $5.00. Under the suggested rate, with the minimum charge applied quarterly, the total annual charge would be $5.80. If the minimum charge in the suggested rate were applied annually the total charge under both rates would be the same. It is doubtful whether, even with the minimum charge applied quarterly, more than a very few charges would be increased, and if it were to be applied annually, not a single increase would result, except in such extremely rare cases as might arise where consumers having very large meters would use such small quantities of water that the city's present minimum would not reimburse the city for the fixed charges on the investment in such large meters. The suggested rate does not reduce the minimum charge but it increases the amount of water which may be used under the minimum from 20,000 gallons per year to 30,000 gallons.

Any attempt to make it appear that the suggested rate constituted a general increase is misleading and fails to state the facts correctly. For by far the greater number of users the suggested rate either reduced the charges to consumers or increased the amount of water which could be used without changing the price.

As stated above, the schedule outlined was fixed upon the assumption that the city should pay the full costs of fire protection. It should also be stated that the schedule was designed merely as a recommendation and the Commission did not have before it all the facts which are before it in the present proceeding. In view of these conditions it is deemed best to compute three schedules, as already stated, having in view all the facts now before the Commission. In this connection the argument that the rates at Watertown are already very low should be noted. It is true that the rates are somewhat lower than in many

other cities of the size of Watertown. This is made possible by an unusually good development of the business and particularly by the fact that a great deal of water is sold to the railroads, which, although sold at comparatively low rates, yields enough more than the actual added cost of furnishing the service to enable the city to furnish water to general users at prices materially lower than would be possible if the large consumers were not supplied. Objection is sometimes offered to the policy of supplying large consumers at low rates. Watertown furnishes a clear illustration of the advantages of such a policy. There is no question that if four or five of the largest consumers should discontinue the use of water from the city system the utility would be unable to meet its operating expenses and fixed charges. If water were supplied to all users at a uniform rate the very large users would doubtless find it cheaper to furnish their own supplies than to buy water from the city. The nature of the waterworks business is such that a few very large users, supplied at what may appear to be very low rates, sometimes enable general users to secure rates much more advantageous than would otherwise be possible. An illustration of this is the rate fixed by the Commission in the *Sparta Case*, 12 W. R. C. R., 532–546.

In addition to the information contained in the Commission's informal report, quoted above, we now have the report of the utility for the fiscal year ended June 30, 1913. Following is a statement of the income account as shown in that report:

INCOME ACCOUNT—WATERTOWN WATER WORKS.

Year ended June 30, 1913.

OPERATING REVENUES:		
Earnings from commercial sales	$17,920.47	
Earnings from industrial sales	1,229.40	
Earnings from street sprinkling	675.45	
Earnings from municipal departments	737.13	
Miscellaneous operating earnings	186.36	
Total operating revenues		$20,748.81
OPERATING EXPENSES:		
Pumping	$8,071.09	
Distribution	2,140.24	
Commercial	160.00	
General	1,168.69	
Undistributed	244.62	
Total of above items	$11,784.64	
Depreciation	1,500.00	
Total operating expenses		13,284.64
Net operating revenue		$7,464.17

In the Commission's informal report the reasonable allowance for interest, taxes, and depreciation was fixed at $11,807.77. In round numbers, $12,000 should be a sufficient allowance for these items at the present time. The net operating revenue, together with the amount provided for depreciation during the past year, amounted to $8,964.17. In other words, the actual revenue of the utility fell $3,035.83 short of meeting the operating expenses, providing for depreciation, for the interest and for the amount which the city should be entitled to receive from the utility in lieu of taxes. If the utility had been given credit for fire protection service this apparent deficit would have been more than wiped out.

A revision of the general rate schedule need not affect the earnings from street sprinkling or the miscellaneous operating revenues of the utility. If the city were to pay for fire protection in accordance with the cost as shown in the informal report, the revenue from this source, together with revenue from street sprinkling and miscellaneous operating revenues, would amount to $9,361.81, which would leave $14,422.83, on the basis of the 1913 business, to be obtained from general service, or slightly less than the amount shown in the informal report. If the city were to pay $4,500 per year for fire protection, which is only slightly more than half of the cost of that service, the amount to be secured from commercial and industrial service and from municipal departments would be $18,422.83, as compared with the actual revenue from these sources in 1913 of $19,887. In the relations between the city and the utility are to remain as they have been during the past year the city will virtually be paying $3,035.83 for fire protection, even though no such payment is actually recorded, because of the fact that the utility has failed by that amount to earn enough from its various sources of revenue to meet all expenses which should properly be met by the utility, as distinct from the city.

Following are three schedules of rates designed to fit the different conditions which may arise, depending upon the attitude of the city toward assuming the burden of fire protection:

SCHEDULE I.

If the city will bear the entire cost of the service, about $8,500, or approximately $5,500 above the cost actually borne by it, because of the fact that the earnings of the plant fell about $3,000

short of meeting all expenses properly chargeable against the utility, the following rate schedule will meet the needs:

Minimum bills—quarterly.

5/8″ meters	$1.15
3/4″ meters	1.50
1″ meters	2.00
1 1/2″ meters	2.50
2″ meters	4.00
4″ meters	9.00
6″ meters	16.00

Charges for water:

First 1000 cubic feet per quarter to come under the minimum for all sizes of meters, minimum to be applied quarterly.

That portion of the quarterly consumption between 1,000 and 5,000 cubic feet, 7 cts. per 100 cubic feet.

That portion of the quarterly consumption between 5,000 and 25,000 cubic feet, 5 cts. per 100 cubic feet.

Excess, 4 cts. per 100 cubic feet.

This schedule, on the basis of the analysis we have made of the statistics of consumption will yield about $14,373.19 per year.

SCHEDULE II.

If the city will assume a part of the cost of fire protection, about $2,000 more than at present, the following schedule will meet the needs:

Minimum bills, per quarter—5/8″ meter—$1.25. Other minimum charges as in Schedule I. All minimum charges to be applied quarterly.

Charges for water:

First 750 cubic feet per quarter to come under the minimum for all sizes of meters.

That portion of the quarterly consumption between 750 cubic feet and 5,000 cubic feet, 12 cts. per 100 cubic feet.

That portion of the quarterly consumption between 5,000 cubic feet and 25,000 cubic feet, 10 cts. per 100 cubic feet.

That portion of the quarterly consumption between 25,000 cubic feet and 50,000 cubic feet, 8 cts. per 100 cubic feet.

Excess, 4 1/4 cts. per 100 cubic feet.

The revenue from this schedule would be approximately $17,500 per year.

SCHEDULE III.

A third schedule has been prepared for use in case the city should choose to meet still less of the cost of fire protection than contemplated in Schedule II.

This schedule is as follows:

Minimum charges as in Schedule II, all to be applied quarterly.

Charges for water:

First 750 cubic feet per quarter to come under the minimum for all sizes of meters.

That portion of the quarterly consumption between 750 cubic feet and 5,000 cubic feet, 16 cts. per 100 cubic feet.

That portion of the quarterly consumption between 5,000 cubic feet and 25,000 cubic feet, 12 cts. per 100 cubic feet.

That portion of the quarterly consumption between 25,000 cubic feet and 50,000 cubic feet, 9 cts. per 100 cubic feet.

Excess, 4¼ cents per 100 cubic feet.

This schedule would yield a revenue of about $19,000 per year.

In Schedule III some consumers would pay slightly more than at present because the regressive feature of the present schedule enables consumers to use a larger amount of water for a smaller payment than is required for a smaller consumption. The proposed schedule eliminates the discriminatory feature of the present rate and would affect a slight general reduction.

Under all the circumstances it seems that the respondent should be permitted to adopt one of the three schedules, and that respondent should be permitted to make its own choice as to which of the three should be adopted.

IT IS THEREFORE ORDERED, That the respondent, the city of Watertown, discontinue its present schedule of rates for metered water and substitute therefor one of the three schedules shown above under the symbols, I, II, III. This action shall be taken within a time which will make the new rates apply to all water used after July 1, 1914.

OSCAR A. ALTER ET AL.

vs.

BOARD OF WATER COMMISSIONERS OF THE CITY OF MANITOWOC.

H. L. MARKHAM ET AL.

vs.

CITY OF MANITOWOC.

Decided June 30, 1914.

Respondent petitioned the Commission to suspend its order in the case of *Alter et al. v. City of Manitowoc*, 1912, 10 W. R. C. R. 387. In that case action relating to the readjustment of rates was postponed until such time as the normal operating conditions for the municipally owned water plant could be determined. No change was ordered in the respondent's policy of requiring property owners to pay for the installation of services, but respondent was ordered to furnish meters for certain classes of consumers and to acquire meters then in use, or pay a reasonable rental.

An order requiring the utility to furnish meters hereafter installed and to purchase or rent from the consumers all meters installed at the expense of the consumers, was opposed on a variety of grounds. Among others, respondent urged that consumers should own those parts of the equipment of which they have continuous or sole possession, and which are installed and used for their individual use; that the numbers of meters injured by freezing would probably be increased if the city were to furnish the meters; and that under such an order a few consumers would have the burden of the expense incurred by furnishing meters generally. Respondent further contended that the rule in Milwaukee, where there is a uniformly low rate and no minimum charge, should be applied in Manitowoc. The rule in question requires consumers to furnish meters. It appears from consideration of the last annual report to the Commission by the Manitowoc water department, and from study of the cost of owning or paying rental for meters that the question of expense is not a valid objection to the Commission's order. It further appears that the rate schedule is so adjusted as to place upon each consumer to a considerable extent the burden of fixed charges.

Held: Whether service pipes from the main to the curb line should be furnished by the utility or by the consumer was discussed in the order in question. The conclusion was reached that in the end it would make no substantial difference in the rates to be charged. No reason is seen under the circumstances of this case for changing the order in this respect except to provide that the charge for services to the curb shall be uniform. It is accordingly ordered that the charge for installing service pipes from main to curb shall be uniform for each size of service piping regardless of the distance from main to curb.

Held: As regards the question of ownership, or rentals for meters, the objections urged are not valid under the circumstances in the present case. A provision in the Public Utilities Law states that meters must be owned by the utility unless an exemption is granted by the Railroad Commission. The law does not specifically state under what conditions such exemptions shall be granted, but it is to be presumed that the utility should not be required to furnish meters whenever, because of local conditions, this would cause an unreasonable burden to the utility. No such local conditions are found in the present case. It is therefore ordered that the order in question be affirmed, except that the city may exercise its option as to furnishing meters free of charge or of paying a rental therefor, both with regard to meters already installed, and to those to be installed thereafter. Rentals are to be as stated in the body of the decision.

REHEARING.

This proceeding arises from the decision in the cases brought by H. L. Markham, Oscar A. Alter and other citizens of Manitowoc to compel the furnishing of meters and of service pipes from the main to the curb by the city of Manitowoc. In its decision in these cases, rendered August 27, 1912, (10 W. R. C. R. 387) the Commission dismissed that portion of the complaints which related to the furnishing of service pipes between the main and the curb line. With regard to the meters the Commission ordered the city of Manitowoc to furnish meters for all consumers having sewer or cesspool connections without cost to the consumer, and either to acquire the meters in use or pay the consumers a reasonable rental for the meters furnished by the consumers. After some time it was learned that the city of Manitowoc had not complied with the order of the Commission relating to the meters. A letter was written to the mayor of the city of Manitowoc under date of January 27, 1913, setting forth the provisions of the order and requiring the city to comply with them. On February 3, 1913, a petition was filed by Henry Stolze, Jr., mayor of the city of Manitowoc, and J. E. Plumb, in the name of the board of water commissioners of Manitowoc, Wis., asking that the Commission suspend its order of August 27, 1912, and proceed to reconsider the matters involved in that order. After considering the questions raised in the application filed on behalf of the board of water commissioners, the Commission suspended its order of August 27, 1912, and proceeded to make a further investigation.

A rehearing was held on April 18, 1913, at Manitowoc, Wis. *H. L. Markham* and *Oscar A. Alter* appeared in their own be-

half and in behalf of others similarly situated. The city of Manitowoc was represented by *H. F. Kelly,* city attorney. No detailed résumé of the testimony introduced is considered necessary at this point inasmuch as all of the matters brought out in the testimony and in the supplementary statement filed in connection with this case have been given full consideration in arriving at the decision in this case.

We are aware that in at least one case (*City of Janesville v. Janesville Water Co.* 1911, 7 W. R. C. R. 628) this Commission has required a water utility to furnish service pipes from the main to the curb lines. This was given consideration in connection with the order of August 27, 1912, and it was concluded that, although as a theoretical proposition service pipes should be furnished by the utility, in the end it would not make any substantial difference whether service pipes were furnished by the utility or by the consumer. If they are to be furnished by the consumers, the rates to be charged should reflect that fact, and the same condition should be true if they are furnished by the utility. Action on so much of the original petition as related to the readjustment of rates was postponed until such time as the normal operating conditions for the municipally owned water plant could be determined. Under all the conditions concerned in this case we do not see that the order of August 27, 1912, should be changed so far as it relates to the furnishing and ownership of service pipes.

In regard to the meters the situation is somewhat different. With a properly adjusted rate schedule it is probably true that as far as the cost of the service is concerned the consumer derives no particular benefit from having the meters owned by the utility. There is, however, a provision in the Public Utilities Law which is declaratory of what must generally be the rule with regard to the ownership of meters. This provision states that meters must be owned by the utility unless an exemption is granted by the Railroad Commission. The law does not specifically state under what conditions such exemptions should be granted, but it is to be presumed that the utility should not be required to furnish meters whenever, because of local conditions, this would cause an unreasonable burden to the utility. In the present case it seems that the question for determination is, whether an order requiring the city of Manitowoc to furnish meters hereafter installed and to purchase or rent from the con-

sumers all meters which have been installed at the expense of the consumers, would impose any unreasonable burden upon the city of Manitowoc as a water utility.

The leading objection offered by the city will be considered here. It was contended that consumers should own those parts of the equipment of which they have continuous or sole possession and which are installed and used for their individual uses. Whatever may be said as to the logic of this argument, it seems to us that it must be interpreted in the light of the provisions of the Public Utilities Law previously referred to, which provides that meters will be furnished by the utility except as otherwise stated. If the argument of the city were to hold, there is no reason why it should not hold for all utilities, and any such interpretation would necessarily result in exempting all utilities from the provisions of the law. We must therefore look farther than this argument to find if there are conditions peculiar to the water utility in Manitowoc which make it reasonable that this Commission should exempt the water utility from the provisions of the law.

One argument advanced by the city was that, even with the meters owned by the consumers and with the repair bills borne by the consumers, there are a considerable number of meters injured by freezing, and that this number would probably be increased if the city were to furnish the meters. We fail to see that this is a condition by reason of which the city of Manitowoc should be exempted from the law if the law is to apply in any other cases. No evidence was produced to show that this condition would be any worse in Manitowoc than in the case of utilities not exempted from the law. It is, of course, reasonable for the utility to insist that a fair degree of protection be given the meters and that proper precautions be taken to prevent freezing, and it may not be unreasonable to require the consumers to pay for repairing meters injured by frost, where the injury was due to the failure or refusal of the consumer to provide proper protection, or to his neglect to take reasonable precautions to protect the meter. So far as the freezing of meters is concerned, therefore, it does not seem to us that the city should be exempted from the ownership of the meters.

A citation from the case of *City of Janesville v. Janesville Water Co.* 1911, 7 W. R. C. R. 628, was introduced by the city to the effect that it is not believed by the Commission that the utility should be required to install and own such portions of the services

as are on private property. This statement is somewhat misleading in itself, in that it related to service pipes as used in the *Janesville* decision and not to ownership of meters.

It was also argued by the city that if the consumers were relieved of the necessity of furnishing their own meters, a few consumers would bear the burden of the expense incurred by furnishing meters generally. This argument we do not consider sound. The rate schedule in use in Manitowoc is so adjusted as to place upon each consumer to a considerable extent the burden of the fixed charges incurred in furnishing services. Whether this burden is perfectly distributed is not a matter for determination at this time, but we see no reason to believe that there is any condition peculiar to the situation at Manitowoc which requires us to exempt the city from furnishing meters because of this condition.

It was also stated that approximately one-fourth of the users at Manitowoc pay $35,000 of the gross earnings of the utility. This is manifestly an error, as the total earnings of the utility, aside from its earnings from service furnished to the city for the year ending June 30, 1913, were somewhat less than $31,000.

Comparison was also made between Manitowoc and Milwaukee, and the city contended that the rule in effect in Milwaukee, requiring consumers to furnish meters, should be applied in Manitowoc. Other conditions being equal, there would be considerable justice in the city's claim, but it must be borne in mind that the rate for water in Milwaukee at the present time is a uniform rate of 4½ cts. per hundred cubic feet without any minimum charge whatever. Under these conditions there is nothing in the rate schedule at Milwaukee as at present constituted which insures that each consumer would return to the water department the fixed charges incurred in serving him, particularly if the city were to furnish the meters. It must also be borne in mind that the water rate in Milwaukee is uniformly low, and that because of this and the absence of any minimum charge, conditions in Milwaukee and Manitowoc do not admit of comparison.

It was also stated on behalf of the city that the city cannot afford to furnish the meters or rent those at present in use because of the great expenditure involved. The last annual report made to the Railroad Commission by the Manitowoc water department shows that the net operating revenue for the year

ending June 30, 1913, was $25,669.14, after an allowance of $3,000 had been made for depreciation and $3,535.35 for taxes which should be borne by the water department. According to this same report there were, at the end of the year, 1,448 private consumers supplied with meters and 10 public consumers, and there were 466 private consumers on a flat rate basis and 2 municipal users, exclusive of hydrants. According to this same report there were at the end of the year 1,256 5/8″ meters 130 3/4″, 29 1″, 14 1½″, 7 2″, 11 3″, and 1 4″ meter.

The order of the Commission already referred to did not contemplate that the city must immediately purchase all of these meters. It was provided that the city should either purchase them or pay the consumer a reasonable rental. With the net earnings reported by the utility for the last fiscal year, it is clear that a reasonable rental for these meters plus interest, depreciation and ordinary maintenance charged on meters to be installed in the future, would by no means seriously cut into the net revenues of the utility. We have no information at hand at present as to what type of meter has been installed in Manitowoc, but if the type of meter is that in general use in water utilities in this state, the total burden imposed upon the utility by the order of the Commission would amount to only a very small part of the net earnings. Prices for this type of meter in place as allowed by the Commission's staff in its valuations have usually ranged from about $9.00 for a 5/8″ meter to $150.00 for a 4″ meter. A proper rental to be paid by the city in cases where consumers own their meters should cover the elements of costs of which the city is relieved by the fact that meters are furnished by consumers. These costs are the interest, depreciation and taxes on the meters, for which a fair annual allowance is as follows:

5/8″ meters	$1.00	1½″ meters	$4.00
3/4″ "	1.40	2″ "	6.00
1″ "	1.80	3″ "	11.00
1¼″ "	2.60	4″ "	16.00

Assuming that the city were to rent from consumers all meters in use, instead of purchasing them, the total annual expense incurred for the 1,448 meters shown by the last report to be used in private service, would be $1,672.40. On June 30, 1913, there were 466 unmetered private services and two unmetered public buildings. The fixed charges on the investment which would be

required if all services were to be metered would not be over $500 annually. The cost of owning or paying a rental for meters would not, therefore, stand as a valid objection to the affirmation of the Commission's original order.

Although the city will not be required to put in service pipes free of charge, it will be provided that the charge for services to the curb shall be uniform and shall not be different for different sides of the street.

NOW, THEREFORE, IT IS ORDERED:

1. That the order of August 27, 1912, heretofore referred to, be and the same hereby is affirmed, except that the city may exercise its option as to furnishing meters free of charge or of paying a rental therefor, both with regard to meters already installed and to those to be installed hereafter. Rentals shall be as stated in the body of the decision.

2. That the charge for installing service pipes from main to curb shall be uniform for each size of service piping regardless of the distance from main to curb.

IN RE PETITION OF CITY OF MANITOWOC AS A WATER AND LIGHT UTILITY FOR AUTHORITY TO ALTER RATES AND TO CHANGE ITS UNIT OF MEASURING WATER CONSUMPTION.

Decided June 30, 1914.

Petitioner prays for authority to change its unit of measurement for water from gallons to cubic feet, and to alter its water and electric rates. The petition specifically seeks to reduce the minimum annual charge for water from $5 to $3; to fix a minimum charge for each consumer of electricity for other than power purposes, of 25 cts. per month, and to make a charge of $1 for installing an electric meter upon the cessation of electric service at any one place used in whole or in part for business purposes, provided that the total of all charges for electric consumption since the beginning of such service shall not thereby exceed $3.

It appears that meter readings of water meters in use at Manitowoc are taken in cubic feet, that it is necessary to transpose these into gallons for purposes of billing consumers, and that a ratio of 7.5 gallons to a cubic foot is used.

As regards the minimum annual charge for water, it appears that at present meters are furnished by the consumers, and that, under orders of the Commission (*Alter et al. v. City of Manitowoc*, 1912, 10 W. R. C. R. 387, and, rehearing, decided June 30, 1914, 14 W. R. C. R. 690) the city is required to secure the ownership of the meters, or to pay a rental to consumers who furnish their own meters. The application of the city will virtually amount to a reduction of $1 below the net rate which would result from the order in the cases in question.

The purpose of a charge of $1 for installing electric meters is to prevent the utility from being required to furnish service at a loss to temporary consumers. It is stated that the average cost of installing an electric meter is between $0.90 and $1.00.

Held: The change in the unit of measurement for water service from gallons to cubic feet is not open to objection. It is merely asked as a matter of convenience and is therefore authorized.

Held: The minimum annual charge for water suggested by the city appears rather low, but is accepted in substance, subject to modification as outlined. The petitioner is authorized to reduce its minimum annual charge for water service from $5 to $4 as a gross minimum rate, subject to discount for meter rentals on basis ordered by the Commission, where the consumer owns the meter.

Held: The minimum monthly charge suggested for electric current for all except power purposes seems clearly reasonable and is authorized. The proposed charge for installing electric meters appears a reasonable regulation, and the desired authority is granted.

Petition in this matter was filed with the Commission on April 29, 1914, by Harry F. Kelley, city attorney of Manitowoc. The

petition shows that at a regular meeting of the board of aldermen of the city of Manitowoc held on April 6, 1914, the following resolution was adopted by the affirmative vote of all members present:

"Resolved by the mayor and board of aldermen of Manitowoc that the attorney be and he hereby is instructed to take the proper steps to effectuate the following changes in the practices and rates of the municipal water and electric utilities, to wit: 1. Change the water consumption unit of measurement from gallons to cubic feet for the purpose of making simple computations from meter readings, leaving quantity rates as they are on the basis of 7.5 gallons to a cubic foot. 2. Reduce the minimum annual charge for water from $5 to $3. 3. Fix a minimum charge for each patron of the electric plant at 25 cts. per month. 4. Fix a charge of $1 for installing an electric meter."

Hearing in this matter was set for May 28, 1914, but no appearances were entered. No argument has been submitted in opposition to the proposed changes and no opposition to them has come to the notice of the Commission in any manner. On behalf of the city of Manitowoc a statement of the reasons for the changes was submitted, together with affidavits as to the probable effect of the changes upon the revenues of the utility and upon bills paid by consumers.

The first portion of the application, that which seeks to change the unit of measurement for water service from gallons to cubic feet, does not seem to be open to objection. At present it is understood that the meter readings of water meters in use at Manitowoc are taken in cubic feet and that it is necessary to transpose these into gallons for purposes of billing consumers. It is understood that a ratio of 7.5 gallons to a cubic foot is used. The amendment asked for then is merely asked as a matter of convenience to the utility, and we see no objection to its being authorized.

The second part of the application seeks to reduce the minimum annual charge for water from $5 to $3. In connection with this we must note the proceedings in the case of *Alter et al. v. City of Manitowoc,* in which a decision was issued by the Commission on August 27, 1912, (10 W. R. C. R. 387) requiring the city of Manitowoc to furnish water meters at its own expense. Rehearing in this matter was later authorized, in which the order of August 27, 1912 (14 W. R. C. R. 690), was affirmed,

with the following exception: "That the city may exercise its option as to furnishing meters free of charge or of paying rental therefor both in regard to meters already installed and to those to be installed hereafter." At present the meters are furnished by the consumer. The decision in the *Alter* and *Markham* cases requires the city to make the additional investment required to secure ownership of the meters or to pay a rental to consumers who furnish their own meters, such rental to be $1 per year for a 5/8" meter and larger sums for larger meters. In other words, where consumers still furnish their meters, under the order referred to, the net minimum annual rate to consumers will be $4 for a 5/8" meter. The application of the city will virtually amount to a reduction of $1 below the net rate which would result from the order in the *Alter* and *Markham* cases. We are inclined to believe that although the minimum suggested by the city is rather low, it may be accepted in substance but subject to modifications as outlined here. The minimum charge should be $4 per year, with a rental to consumers who are required by the city to furnish their meters, amounting to $1 per year for a 5/8" meter and to larger sums for larger meters as stated in the cases previously referred to. The net rate to consumers who furnish their meters would then be the same as the net minimum rate suggested by the city. If, however, the city should determine to furnish the meters at its own expense instead of renting them from consumers, the net rate would be $4 per year instead of $3, which difference would about cover the difference in cost to the city.

The third portion of the application relates to the fixing of a minimum charge for each consumer of electricity for other than power purposes of 25 cts. per month. We do not consider it necessary to go into any analysis of this minimum charge. There seems to be no question as to its reasonableness.

The fourth section of the application relates to a charge of $1 for installing an electric meter. The purpose of this portion of the application is somewhat different than would appear from the language in which it has been presented. The rule which the utility suggests to cover this situation reads as follows: "Upon the cessation of electric service at any one place used in whole or part for business purposes the final bill for service there shall include a charge of $1 for installing the meter there, provided that in case the total of all charges for electric consumption there since the beginning of such service shall have been more than $2,

then only such part of $1 as shall make such total $3 shall be included in said bill.'' It is stated in the utility's argument that this rule will affect few situations but will stop a source of some loss and will prevent the utility from being required to furnish service at a loss to temporary consumers. It is further stated that the average cost of installing an electric meter is between $0.90 and $1. This proposed regulation appears to be a reasonable one, as it can do no more than give the utility a reasonable degree of protection against losses from temporary consumers.

IT IS THEREFORE ORDERED, That the applicant, the city of Manitowoc, be and the same hereby is authorized to amend its rates for water and electric service as follows:

1. To express its water rates as charges per hundred cubic feet instead of as charges per thousand gallons, such rates to be filed with the Commission immediately upon their adoption.

2. To amend its water rates by reducing the minimum annual charge for water service from $5 per year to $4 per year as a gross minimum rate to be applied in cases where the city owns the meters. Where consumers own the meters rentals shall be paid as stated in the *Alter* and *Markham* cases so that the net minimum charge shall be $4, less the amount of the rental to be paid by the city to consumers who furnish their meters.

3. To put into effect a minimum monthly charge of 25 cts. for electric current furnished for all except power purposes.

4. To put in effect the following rule regarding charges for connecting electric meters: ''Upon the cessation of electric service at any one place used in whole or in part for business purposes the final bill for service there shall include a charge of $1 for installing the meter there, provided that in case the total of all charges for electric consumption there since the beginning of such service shall have been more than $2, then only such part of $1 as shall make such total $3 shall be included in said bill.''

IN RE APPLICATION OF THE PRESCOTT TELEPHONE EXCHANGE FOR AUTHORITY TO INCREASE RATES.

Decided June 30, 1914.

The applicant asks for authority to increase its rate for business telephones in Prescott, Wis. From a consideration of the earnings and expenses of the applicant, it appears that the earnings resulting from the present rates are and will continue to be insufficient to meet the operating expenses of the utility and provide adequately for depreciation and interest.

Held: The increase asked appears reasonable both in relation to the total earnings of the utility and the service rendered to the class of subscribers involved, and is accordingly authorized.

This application was filed with the Commission on March 5, 1914. The Prescott Telephone Exchange is a public utility operating a telephone system in Prescott, Wis. The application shows that the lawful rates of the applicant now in effect are $0.75 per month for local residence and business telephones, and $1 per month for rural telephones. The applicant asks for an increase in rates for the reason that it considers the rate of $0.75 per month for business subscribers too small to meet the expense of this class of service. Authority is asked to increase the rate for business telephones to $1.25 per month.

Hearing in this matter was set for May 7, 1914, but there were no appearances.

Although the information at hand with regard to the Prescott Telephone Exchange is not as complete in some respects as might be desired, there seems to be no question as to the reasonableness of the increase asked for by the applicant. It appears that the business telephones are on single party lines and that the entire system is metallic.

Earnings from exchange service amount to about $2,200 per year, and the applicant states that the expense, not including the time of the proprietor, amounts to about $1,200 per year. The investment is stated to be $10,000. From such facts as we have with regard to telephone systems of a similar character operating in other localities in the state, it appears unquestionable that

the earnings resulting from present rates are and will continue to be insufficient to meet the operating expenses of the utility and provide adequately for depreciation and interest. Interest and depreciation on the plant alone would be from $1,200 to $1,400 per year. Although the expense of operation is not fully stated by the applicant, it is clear that interest, depreciation, and ordinary operating expenses will make up a total considerably in excess of the present operating revenue. The increase of from $0.75 per month to $1.25 per month for business telephones appears reasonable, not only in its relation to the total earnings of the utility, but in its relation to the service rendered to this class of subscribers, and it will be authorized in this case.

IT IS THEREFORE ORDERED, That the applicant, the Prescott Telephone Exchange, may increase its rate for business telephones from $0.75 per month per telephone to $1.25 per month per telephone. This increase may take effect July 1, 1914.

WEBSTER MANUFACTURING COMPANY
vs.
CHICAGO AND NORTH WESTERN RAILWAY COMPANY,
NORTHERN PACIFIC RAILWAY COMPANY.

Decided June 30, 1914.

Complaint was made by the petitioner that the rates on hardwood logs between Van Buskirk and Carson, in Iron county, Wis., to Central avenue, Superior, were unjust and unreasonable as compared with rates on forest products for similar hauls in Wisconsin traffic, interstate traffic, or Minnesota intrastate traffic. Petitioner alleged that the various carriers of the state had built up a system of rates on logs and other raw material specially designed to keep such raw materials for manufacture on their own lines, and for the reshipment of the finished product so far as each carrier could control the movement.

Held: While nearly all log rates are constructed on the basis of an outhaul of the finished product and are not directly comparable with the traffic under consideration where reshipment is not taken into account, yet upon any proportional allotment of rates, the ones in question are excessive. From the investigation made it appears that a joint through rate not to exceed 4.5 cts., subject to minimum weight of 50,000 lb., would be reasonable in the present case. The respondents are ordered to discontinue their present rates and substitute therefor the rates approved by the Commission.

This case first came before the Commission late in 1913 as a complaint against the rates of the Chicago & North Western Railway Company on hardwood logs from Van Buskirk and Carson Siding, Wis., to Superior. A hearing was held on December 9, 1913, pursuant to notice, at which no one appeared for the petitioner, but *Robert H. Widdicombe* and *H. C. Cheney* appeared for the Chicago & North Western Railway Company and *W. D. Burr* for the Chicago, St. Paul, Minneapolis & Omaha Railway Company. On January 3, 1914, the Commission received a request from Mr. J. A. Little, representing the petitioner, to withhold a decision in the case, as an amended complaint which would join the Northern Pacific Railway Company with the Chicago & North Western Railway Company was about to be filed.

The amended complaint was duly filed and a hearing was held, pursuant to notice, on March 5, 1914, at which *J. A. Little* appeared for the petitioner, *H. C. Cheney* for the Chicago &

North Western Railway Company, and *W. E. Alair* for the Northern Pacific Railway Company.

The petitioner is a manufacturer of furniture, and is compelled to reach out long distances in order to get the high grade material required for its products.

The substance of the complaint made by the petitioner was that the rates on hardwood logs between Van Buskirk and Carson, in Iron county, Wis., to Central avenue, Superior, where petitioner's mill was located, were "unjust and unreasonable as compared with rates on forest products for similar hauls in Wisconsin traffic, interstate traffic or Minnesota intrastate traffic."

To support the charge, the petitioner pointed out that the log rates were higher than the joint through rates on lumber between the same points. The petitioner further alleged that the various carriers of the state had built up a system of rates on logs and other raw material specially designed to keep such raw materials for manufacture on their own lines, and for the reshipment of the finished product so far as each carrier should control the movement. It was shown at the hearing that the Northern Pacific had not refused, as had the North Western, to make joint rates on the logs required by the petitioner.

According to the published tariffs Chicago & North Western G. F. D. 5600—C and Northern Pacific G. F. D. 1600—B, the rates charged the petitioner on logs are, Carson to Ashland, 6 cts. per cwt.; Ashland to Central avenue Superior, 4.5 cts. per cwt. —combination through rate, 10.5 cts. per cwt. The distances are: Van Buskirk to Central avenue, Superior, 112 miles; from Carson to Central avenue, Superior, 123 miles. These rates are nearly 25 per cent higher than the joint lumber rates in force in the state for similar hauls. They are higher also than rates on logs for similar hauls elsewhere in the state. While it is true that nearly all log rates are constructed on the basis of an outhaul of the finished product, and are not directly comparable with the traffic under consideration where reshipment is not taken into account, yet upon any proportional allotment of rates they are excessive.

Whatever may have been the purpose of the respondent companies in fixing the rates complained of so high, the effect has been prohibitive so far as the petitioner is concerned.

In *Paul Gablowski v. C. & N. W. R. Co.* and *Green Bay & W. R. Co.*, decided January 31, 1912 (8 W.R. C. R. 544) the situation

was about the same as in the present case. Rates ordered in that case to New London have since been put in force between all stations on the Chicago & North Western Railway. This was a voluntary action on the part of the railroad company, with the Commission's approval. These rates apply to shipments of logs not for manufacture and reshipment via Chicago & North Western Railway, and therefore are properly applicable to shipments from Van Buskirk and Carson to Ashland, the Chicago & North Western Railway's haul involved in this case. From Van Buskirk to Ashland the distance is 44.7 miles, and from Carson to Ashland 56.1 miles. Rates for these and similar distances and for distances involved in the entire haul from these points to Central avenue, Superior, are as follows:

Miles.	Rates.	Miles.	Rates.
40	2.48 cents	110	3.85 cents
45	2.62 "	115	3.95 "
50	2.72 "	120	3.95 "
55	2.82 "	125	4.08 "
60	2.92 "	130	4.08 "

The rates named above are published in C. & N. W. G. F. D. No. 14975, effective January 26, 1914.

From Ashland to Central avenue, Superior, via the Northern Pacific Railway, the distance is 67.1 miles. There is no specific rate on logs from and to these points, but N. P. Tariff No. 1600–C names a rate of 4.5 cts. on lumber which applies to logs. This rate added to rates to Ashland, makes the through rates 7.12 cts. from Van Buskirk and 7.42 cts. from Carson to Ashland. The testimony and exhibits offered in behalf of the petitioner at the hearing indicate that the petitioner believes he should have a through rate of 3.5 cts. or 4 cts. but nothing presented appears to show what rate he can pay without hardship. The joint two-line haul rates on pulp wood and pulp wood logs ordered by the Commission in *Pulp & Paper Mfrs. Traffic Assn. v. C. & N. W. R. Co. et al.*, decided February 11, 1914, (13 W. R. C. R. 735) would, if applied to the present case, make a rate of 4 cts. from Van Buskirk and 4.1 cts. from Carson to Central avenue, Superior. Based on this decision it would seem that a joint rate of 4½ cts. might be satisfactory to all concerned.

W. E. Alair's statements for the Northern Pacific Railway, page 24 of the transcript, indicates that a rate of 2.4 cts. Ash-

land to Superior would be satisfactory to that line. Basing the entire haul involved on this, would give a rate of about 4 cts. Inasmuch as this is based on a local rate, and therefore may be considered as nothing more or less than the sum of the locals, the cost of transfer at Ashland need not be considered. The only difference from purely local traffic would arise in connection with cars leaving owners line, resulting in unusual delay thereto. It is not likely that the empty car movement would differ greatly from that in connection with purely local traffic.

From the foregoing it would seem that a joint through rate on logs from Van Buskirk and Carson to Central avenue, Superior, of 4 cts., or not to exceed 4.5 cts. subject to minimum weight of 50,000 lb., should be established.

IT IS THEREFORE ORDERED, That the respondent companies discontinue their present rates on hardwood logs from Van Buskirk and from Carson Siding to Central avenue, Superior, and substitute therefor a joint rate not to exceed 4.5 cts. per cwt., and subject to a minimum weight of 50,000 lb. per car.

ALFRED H. MILLER
vs.
CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Decided July 1, 1914.

The petitioner alleges an overcharge on a quantity of fuel wood and fence posts shipped in the same car from Arpin to Neenah, Wis., over respondent's line. It appears the shipment was billed as fuel wood at the rate properly applicable to that commodity. At destination the rate applicable to straight carload shipments of lumber, and articles taking lumber rates, including fence posts, was assessed. This rate does not, however, include fuel wood.

Held: The fuel wood should have been charged at 3½ cts. and the fence posts at 18½ cts. per cwt. Refund ordered on that basis.

The petitioner alleges that on July 23, 1913, he shipped a quantity of fuel wood and fence posts in the same car from Arpin to Neenah, Wis., over the respondent's line; that the shipment was billed at a rate of 3½ cts. per cwt., which was the rate quoted to the petitioner by the respondent's agent at Arpin; that at the destination of such shipment the rate was changed to 8 cts. per cwt. and charges to the amount of $42.72 were paid by the petitioner upon the shipment; that if the rate quoted by the respondent's agent had been applied the charges would have been $26.54; that the rate as applied is unreasonable, exorbitant and illegal. Wherefore petitioner prays that the respondent railway company be required to refund to it the difference between the rate actually applied and the lawful rate, which is $16.18.

The respondent, answering the petition, denies that the charges as assessed and collected upon the above shipment in question are unreasonable, exorbitant or illegal, and prays that the petition be dismissed.

The case was submitted upon the papers, documents and vouchers on file.

The above shipment consisted of a quantity of fuel wood, not exceeding 48,165 lb. and 500 fence posts weighing not more than 5,235 lb. The total weight of the shipment was 53,400 lb., and was shipped in one car. At Arpin the shipment was billed as fuel

wood at 3½ cts. per 100 lb., which was the rate quoted to the petitioner by the agent at that station, which rate is properly applicable to straight carload shipments of fuel wood. At destination the rate applicable to straight carload shipments of lumber and articles taking lumber rates, including fence posts, which is 8 cts. per 100 lb., was assessed. The charges amounted to $42.72, which were paid by the petitioner. This rate, however, does not include fuel wood.

From the statement of facts in this case and an examination of tariffs on file with this Commission it appears that the weight of the fuel wood did not exceed 48,165 lb., and the weight of the fence posts 5,235 lb., and that the fuel wood should have been charged at the rate of 3½ cts. and the fence posts at the less than carload rate of 18½ cts. per 100 lb. The latter is the Fourth class rate from Marshfield to Neenah named in respondent's tariff G. F. D. 11600—A, and its application from Arpin to Neenah is provided for by intermediate clause in the tariff. The lawful charges on the shipment should be 48,165 lb. at 3½ cts. making a charge of $16.86, and 5,235 lb. at 18½ cts., making a charge of $9.68, or a total of $26.54 instead of $42.72 as paid.

NOW, THEREFORE, IT IS ORDERED, That the Chicago & North Western Railway Company be and the same is hereby required and directed to refund to the petitioner the sum of $16.18.

IN RE APPLICATION OF MOSINEE TELEPHONE COMPANY FOR AUTHORITY TO INCREASE ITS RATES.

Decided July 6, 1914.

Application was made by the Mosinee Tel. Co. for authority to increase its rates on the ground of increased expenses and inability to earn a reasonable return on the investment. It appears that the proposed schedule provides a lower rate for rural subscribers owning their own telephones than for those who do not, and that the practice has been to make a charge of 10 cts. per call between the hours of 10 p. m. and 7 a. m. with the exception of certain subscribers, who make regular early morning calls to the depot, and who are exempted because the charges otherwise would be excessive.

Held: The schedule applied for cannot be approved without certain changes. Under the Public Utilities Law (1797*m*—90) all subscribers having the same class of service must be given the same rate. A reasonable rental, however, may be paid those subscribers owning their own equipment. The company is ordered to keep all equipment in repair and pay a rental of 15 cts. per month to all subscribers owning their telephones. In order to avoid unjust discrimination it is further ordered that all subscribers are to have the privilege of making early morning calls to the depot without extra charge. All other calls between the hours of 10 p. m. and 7 a. m. are to be 10 cts. per call. The respondent is authorized to discontinue its present schedule of rates and to substitute therefor the rates approved by the Commission.

The Mosinee Telephone Company filed application with this Commission on February 2, 1914, for authority to increase its rates.

The rates in effect at the time of the application as stated by the applicant were as follows:

	Rate per month.
Business telephones	$1.50
Residence telephones, private	1.00
Residence, 2 party on selective ringing, metallic	1.00
Residence, 4 party on interurban metallic	1.00
Business, 4 party on trunk line metallic	1.00
Business, 2 party on metallic circuit	1.50
Rural, subscribers owning their telephones	.50
Rural, company owning telephones	1.00
Rural, 3 party on grounded line	1.00

The application alleges that the members of the company have donated their time in order to build up and equip the business

for the purpose of rendering good service to the subscribers, and that notwithstanding this fact they have been unable to receive any return on their investment in the form of dividends or any other remuneration. It is alleged further that the expenses of operation in the past have been low, due to the economical arrangement for conducting the central office and the nominal wages paid the trouble man, but that the arrangement in question cannot be enjoyed by the company in the future and that the operating expenses will therefore be increased. To meet the increased expenses and to pay a reasonable return on the investment, the company applies for authority to put into effect the following schedule of rates:

	Rate per month.
Business telephones, 1 party, metallic	$1.50
Business " 2 " "	1.25
Business " 4 " trunk line metallic	1.25
Residence " 1 " metallic	1.25
Residence " 2 " metallic	1.00
Residence " 4 " metallic interurban lines	1.00
Rural " company owning phones	1.25
Rural " subscribers owning phones	1.00
Rural " grounded line	1.00

The above schedule provides for a rate of $1.00 per month for rural subscribers owning their telephones, and $1.25 per month for those rural subscribers whose telephones are owned by the company. In order to comply with sec. 1797*m*—90 of the Public Utilities Law, all subscribers having the same class of service must be given the same rate, irrespective of whether or not certain subscribers own a part of the equipment. A reasonable rental may be paid those subscribers owning their equipment, however, and this seems to be the proper policy to follow in this case. In the interest of good service it appears desirable, furthermore, to have the company repair all equipment including that owned by the subscribers. Under such conditions, the rental to be paid will be restricted to a reasonable rate for interest and depreciation on the equipment owned by the subscribers. The rental allowance for these two items will amount to about $1.80 per phone per year, or a monthly rental of 15 cts. per phone. The company should keep the telephones owned by the subscribers in repair and in addition pay a rental of 15 cts. per phone per month.

It is stated in the testimony that unlimited service is given between the hours of 7 a. m. and 10 p. m., and that a charge of 10 cts. per call is made for calls between the hours of 10 p. m. and 7 a. m. Exception to the above rule has been made in the case of certain subscribers who make regular early morning calls to the depot. This exception was made primarily, it appears, because a 10 ct. rate per call for those making daily early morning calls would make the charges excessive. The most equitable manner of dealing with this situation, so that no unjust discriminations result between subscribers, is to give all subscribers the privilege of making early morning calls to the depot without additional charges. All other calls coming between the hours of 10 p. m. and 7 a. m. will continue to be 10 cts. per call as at present.

From the foregoing, it appears that certain changes must be made in the schedule of rates applied for before the schedule can be approved. The rates which seem best suited to the conditions are shown in Table I. This table also shows the estimated monthly revenues under the rates outlined.

TABLE I.

ESTIMATED MONTHLY REVENUES.

Classes of service.	Number of subscribers.	Rate per month.	Amount.
One party business, full metallic	15	$1 50	$22 50
Two party business, " "	7	1 25	8 75
One party residence, " "	27	1 25	33 75
Two party residence " "	13	1 00	13 00
Rural subscribers, " "	42	1 25	52 50
Rural subscribers, grounded lines	3	1.00	3 00
			$133 50
Commissions on toll messages			15 00
Total estimated monthly revenues			$148 50
Deduct rental of 24 telephones at 15 cents			3 60
Net estimated monthly revenues			$144 90

With revenues of approximately $145 per month the yearly revenues under the above schedule of rates will be about $1,740.

A system of accounts prescribed by this Commission records the operating expenses of the company since January 1, 1914. The operating expenses for January, February and March were submitted by the applicant for the purposes of this case. These are shown in the following table:

TABLE II.
OPERATING EXPENSES.

	Expenses for 3 months, Jan. Feb. March, per books.	Estimated for year.
Central office	$132 29	$529 16
Wire plant	59 81	239 24
Substation	39 95	159 80
Commercial	8 47	33 88
General	68 24	272 96
Total above	$308 76	$1,235 04
Add		
Taxes estimated		45 00
Depreciation 7 per cent on $4,000		280 00
Total operating expenses		$1,560 04

Although it is not customary to determine the annual operating expenses on the basis of the records for part of a year, the operating expenses as estimated in the above manner should represent the amount required with a reasonable degree of accuracy. Interest at 7 per cent on $4,000, the estimated value of the plant and equipment in this case, is $280, making the total operating expenses $1,840.04.

The estimated operating revenues under the schedule of rates proposed in Table II are $1,740. From this it will be evident that the schedule of rates will not at present yield revenues sufficient to cover the operating expenses and in addition provide a full return on the investment. It appears, however, that increases in the amount of revenues to be received should come from a larger development of the business rather than from further increase of rates.

IT IS THEREFORE ORDERED, That the Mosinee Telephone Company be and hereby is authorized to put into effect the following schedule of rates:

One party business, full metallic	$1.50	per month
Two " " " "	1.25	"
One party residence, " "	1.25	"
Two " " " "	1.00	"
Rural subscribers " "	1.25	"
" " grounded line	1.00	"

Subscribers have the privilege of making early morning calls to the depot without extra charges. All other calls between the hours of 10 p. m. and 7 a. m. shall be 10 cts. per call.

IT IS FURTHER ORDERED, That the company keep all equipment in repair and pay a rental of 15 cts. a month per phone to all subscribers owning their telephones.

IN RE PETITION OF THE CHIPPEWA VALLEY RAILWAY, LIGHT AND POWER COMPANY FOR AUTHORITY TO RELOCATE ITS INTERURBAN LINE THOUGH A PORTION OF THE FIRST AND TENTH WARDS IN THE CITY OF EAU CLAIRE.

Submitted Sept. 4, 1913. Decided July 9, 1914.

Petitioner asks authority to relocate its interurban line in the city of Eau Claire, Wis., along a specified route and requests that the Commission determine the adequacy of the service as proposed. The petitioner alleges that the mayor and council intend to object to the removal of the existing track after the new line shall have been constructed, and further alleges that it is willing to construct the proposed line and operate its interurban cars in the manner indicated, if such change will, in the opinion of the Commission, afford reasonably adequate service for that portion of the city.

Held: The Commission is without jurisdiction to grant the prayer of the petitioner, which is in substance that petitioner be authorized to abandon its existing tracks upon the completion of a new route for which it holds a franchise. (*Lang v. City of La Crosse et al.* 1909, 3 W. R. C. R. 292, 298.) The abandonment of a line of street railway is a matter wholly within the jurisdiction of the common council. However, it seemed advisable to investigate the situation, and to recommend a course of action which, in the opinion of the Commission, will result in the most efficient service for the district in question. It is recommended that the petitioner apply to the city of Eau Claire for authority to abandon its tracks on Franklin, Fay, Putnam and Omaha streets, upon the completion of its new line along Madison street, Mount Tom Park and Starr avenue, as already permitted by franchise; and that the city of Eau Claire grant such authority to the company. The adequacy of the proposed service is not passed upon, since it is a matter which can be more properly determined in the light of the traffic conditions resulting from the change of routing.

The petition alleges in substance that the Chippewa Valley Railway, Light and Power Company now operates in the city of Eau Claire an interurban line from the intersection of Dewey street with the line of the Chicago, St. Paul, Minneapolis & Omaha Railway Company in a northeasterly direction along Madison street to Franklin street, thence northerly and easterly along Franklin street, Fay street, Putnam street and Omaha street to what is known as Chippewa road, being an extension of Starr avenue to the north;

That at the instance of certain manufacturing establishments located south of Madison street which employ upwards of 500 men, the petitioner has offered to relocate its track along Madison street to Mount Tom and thence north on Starr avenue and has applied for and been granted a franchise authorizing it to occupy this route;

That there is not sufficient patronage to warrant the maintenance of the existing track and the proposed track and the operation of interurban or local service on both;

That petitioner is informed and believes that it is the purpose of the mayor and council to object to the removal of the existing track and the new line shall have been constructed; and

That petitioner is willing to remove the existing line and construct the proposed line, and operate its interurban cars over such line in connection with local cars morning, noon and night for the accommodation of factory employes, if such change will, in the opinion of the Commission, afford reasonably adequate service for the people of that portion of the city.

The Commission is therefore asked to authorize the petitioner to relocate its interurban line from the junction of Madison street and Franklin street to Chippewa road as above indicated, and to determine the adequacy of the service above proposed.

A hearing was held at Eau Claire on September 4, 1913, at which *Bundy & Wilcox* appeared for the petitioner.

The Commission is without jurisdiction to grant the prayer of the petition, which is in substance that petitioner be authorized to abandon its existing tracks upon the completion of a new route for which it holds a franchise. *(Lang v. City of La Crosse et al.* 1909, 3 W. R. C. R. 292, 298.) The abandonment of a line of street railway is a matter wholly within the jurisdiction of the common council. However, it has been deemed advisable to investigate the situation, and to recommend a course of action which, in the opinion of the Commission, will result in the most efficient service for the district in question.

To this end a five day traffic count was taken and personal inspections made by the Commission's chief engineer and two other members of the staff. Later, on June 29 and 30, 1914, a member of the Commission with two members of the engineering staff went over the situation fully in company with the city officials and representatives of the street railway company and the

interests in favor of and in opposition to the proposed relocation.

Having thoroughly considered all phases of the controversy brought out by the testimony and subsequent investigations and conferences, it is our opinion that the entire North Hill district will be best served by the construction of a new line on Madison street to Mount Tom Park, thence on a private right of way on the south side of the park to Starr avenue, and north on Starr avenue to a connection with the existing line; and by the abandonment of the tracks now located on Franklin, Fay, Putam and Omaha streets.

Omaha street is at the edge of the residence section near the shore of the log reservoir, and does not afford a suitable route for a street car line which is to serve the entire North Hill district. Since the great majority of the patrons live south of Omaha street, they are obliged to walk away from their destination in order to take a car for the city; and this condition tends to discourage the riding habit instead of encouraging it as would be the case if the walk to the car were in the direction of the city. Many people are inconvenienced as compared with the few who are benefited because of their proximity to Omaha street. The existing route affords convenient access to the several cemeteries which are located north of Omaha street and west of Starr avenue, but we believe that the new route herein recommended will make possible reasonably adequate access to the cemeteries from Starr avenue, even though it is somewhat less convenient than the present line.

Several different schemes for rerouting the line in this district were considered. One proposal was to construct a loop, leaving the present track on Omaha street and laying a new line on Madison street and Starr avenue. For a part of the day when the traffic is principally outbound to the factories, the outbound cars would be routed on Madison street, and in the evening when the traffic is chiefly toward the city the movement around the loop would be in the reverse direction. This plan contemplates the maintenance of two routes. The traffic does not at present warrant the operation of two lines in the North Hill district, and such a system would make it difficult to reduce the time interval between cars in the future, because of the additional costs of operation and maintenance.

Several plans were suggested by the mayor. One is to relocate the interurban line on Madison street, through Mount Tom Park and north on Starr avenue, retaining the existing route as far east as Omaha and McDonough streets and connecting it with the new Madison street line, thereby forming a loop,—Madison, McDonough, Omaha and Putnam streets,—for the use of local city cars. While this arrangement would be more convenient for residents of the immediate vicinity of the loop, it would not adequately provide for the industrial and residential growth of the North Hill district, since a loop system is not easily adapted to extensions of service made necessary by the development of the territory beyond the loop.

Another plan brought forward by him is to construct a new line on Madison street, through Mount Tom Park and north on Starr avenue for interurban service and retain the existing line as far east as Omaha and McDonough streets, to be operated as a stub for local service. It is our opinion that the best service for the whole district cannot be provided with two lines. That satisfactory local service on such a stub line could be rendered is questionable, and it is probable that the operation of local cars on Madison street would also be demanded. More satisfactory service can be rendered by frequent operation on a properly located line, than a less frequent operation on two lines. Furthermore, it is probable that a demand would arise for local service on the stub line to the cemeteries, and this would lead to an unwarranted duplication of trackage in the North Hill district.

The mayor also suggested that the line be relocated so as to extend east on Madison street to McDonough street, north on McDonough street to Omaha street, and thence east on Omaha street over the existing route, thus making possible the abandonment of the tracks on Franklin and Fay streets and on Omaha street west of McDonough street. This plan would divide a long narrow territory transversely, and would not fully meet the situation without the addition of a stub line to the factory district. Such a stub line would be open to the same objections as noted above with reference to a somewhat similar plan.

The mayor's fourth proposal contemplates the establishment of a single line north on Putnam street to Summit street, thence east on Summit street to McDonough street, south on McDonough street to Madison street, and thence east on Madison

street along Mount Tom Park and north on Starr avenue. This plan would introduce four curves and lengthen the route about six hundred feet. Such a detour would retard the schedule for both local and interurban cars, and this would become of considerable importance if the interurban schedule should be changed to a thirty minute interval. The time consumed in operating over the detour might be more efficiently used by extending the local service further east on Madison street. Curves also increase the noise of operation and should be avoided wherever possible in residential districts. Another objection to this proposal is that it would result in the operation of local and interurban cars directly in front of the schoolhouse on Summit street.

As a general proposition, a district shaped like the one under consideration can be best served by a longitudinal line at about the center, or on the city side of the center. However, in the present case topographical conditions will not permit an east outlet for a line on Summit street, which forces the new line away from the center of the North Hill district. The route recommended herein will be less convenient for some patrons than the existing line, but will be more convenient for the majority. However, no patrons will be required to walk an unreasonable distance to the car line. Doorstep street car service for all is not practicable, and the criterion must be the reasonableness of the distance which a patron is obliged to walk in order to obtain service. Omaha street is about 1,500 feet north of Madison street. If every resident of a city were within 1,500 feet or even 2,000 feet of a street car line, the distribution of lines would be more fortunate than is usually the case, even in large cities.

We therefore recommend that the Chippewa Valley Railway, Light and Power Company apply to the city of Eau Claire for authority to abandon its tracks on Franklin, Fay, Putnam and Omaha streets, upon the completion of its new line along Madison street, Mount Tom Park, and Starr avenue as already permitted by franchise; and that the city of Eau Claire grant such authority to the company.

The adequacy of the proposed service is not passed upon in this opinion, since it is a matter which can be more properly determined in the light of the traffic conditions which result from the changed routing.

WAUKESHA LIME AND STONE COMPANY
vs.
MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY,
CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Decided July 10, 1914.

Complaint was made by the petitioner that the charges on a carload of ground limestone, shipped from Waukesha to Durand, Wis., were unreasonable. It appears that the petitioner is a corporation engaged in the manufacture of ground limestone for agricultural purposes at different points in the state.

Held: The rates charged were unreasonable and should not have exceeded charges based on rates established by the Commission in *Waukesha Lime & Stone Co., Frank B. Fargo, Agent, v. M. St. P. & S. S. M. R. Co. et al.* 1914, 13 W. R. C. R. 471, supplemented February 7, 1914, for the purpose of making the C. & N. W. and the C. M. & St. P. railway companies parties to the proceeding. The rate charged on limestone for agricultural purposes from Waukesha to Durand, Wis., a distance of 297 miles via respondent lines, should have been 5.10 cts. per cwt. Refund ordered on that basis.

The petitioner is a corporation engaged in the manufacture of ground limestone for agricultural purposes at different points in the state. It alleges that on or about March 19, 1914, it shipped a carload of ground limestone from Waukesha to Durand, Wis., on which freight charges to the amount of $62.82 were assessed. These charges, petitioner alleges, are unusual and unreasonable and should not exceed the charges based on the rates established by the Commission on interline shipments of limestone for agricultural purposes from Waukesha to points on their lines in Wisconsin in the case of *Waukesha Lime & Stone Co., Frank B. Fargo, Agent, v. M. St. P. & S. S. M. R. R. Co. et al.* 1914, 13 W. R. C. R. 471.

The respondent the Chicago, Milwaukee & St. Paul Ry. Co., in its separate answer, admits all the formal allegations thereof, but denies that the rates charged petitioner are unreasonable and unusual, and should not exceed those established by the Commission in its order in *Waukesha Lime & Stone Co. v. M. St. P. & S. S. M. R. Co. et al.,* but that it has no intrastate line from

Waukesha to Durand, Wis., and that this shipment was interstate in that it passed out of Wisconsin into Minnesota and back again into Wisconsin in its movement from Waukesha to Durand, Wis., and therefore this Commission has no jurisdiction in the matter. Wherefore petitioner asks that the complaint be dismissed.

No answer was filed by the respondent the Minneapolis, St. Paul & Sault Ste. Marie Ry. Co. The case was submitted upon the pleadings, papers and vouchers on file.

The respondent, the Chicago, Milwaukee & St. Paul Ry. Co., is in error in its contention that the above shipment is an interstate shipment. The paid freight bill filed in this case shows that the shipment in question moved from Waukesha over the "Soo" line to Chippewa Falls, and from thence over the Chicago, Milwaukee & St. Paul Railway to Durand, Wis., moving entirely within the state of Wisconsin and is therefore an intrastate shipment and one over which this Commission has jurisdiction.

Charges were paid as follows: Waukesha to Chippewa Falls, 65,400 lb. at 4.8 cts., $31.39; Chippewa Falls to Durand, 65,400 lb. at 4.5 cts., $29.43; making a total of $60.82.

On the day the shipment involved in this case moved, there was in effect a joint rate over the respondents' and other lines on limestone for agricultural purposes of 5.10 cts. per cwt. for a distance of 297 miles, being the distance from Waukesha to Durand via respondent lines. This rate was established by order of the Commission in *Waukesha Lime and Stone Co., Frank B. Fargo, Agent, v. M. St. P. & S. S. M. R. Co. et al.* 1914, 13 W. R. C. R. 471, and supplemented February 7, 1914. The supplemental order was issued for the purpose of making the Chicago & North Western and the Chicago, Milwaukee & St. Paul railway companies parties to the proceeding.

The facts in this case are similar to those set forth in *Wausau Box & Lbr. Co. v. C. M. & St. P. R. Co.* 1910, 4 W. R. C. R., 457; *Wausau Box & Lbr. Co. v. C. & N. W. R. Co.* 1910, 4. W. R. C. R., 459; *Goodwille Bros. v. C. & N. W. R. Co.* 1910, 4 W. R. C. R., 461; *Goodwille Bros. v. C. M. & St. P. R. Co.* 1910, 4 W. R. C. R. 463; *Wisconsin Box Co. v. C. M. & St. P. R. Co.* 1910, 4 W. R. C. R. 768; *Brittingham & Young Co. v. C. M. & St. P. R. Co. et al.* 1911, 6 W. R. C. R., 528; *Higgins Spring & Axle Co. v. C. M. & St. P. R. Co.* 1911, 8 W. R. C. R. 36; and the rule laid down in these cases governs the instant case. The charges on the

shipment complained of at 5.10 cts. per 100 lb. would be $33.35, making an overcharge of $27.47.

We therefore find and determine that the rates so charged by the respondent of the petitioner on the shipment are unusual and unreasonable, and should not exceed the charges based on the rates established by the Commission in *Waukesha Lime & Stone Co., Frank B. Fargo, Agent, v. M. St. P. & S. S. M. R. Co. et al.* 1914, 13 W. R. C. R., 471.

NOW, THEREFORE, IT IS ORDERED, That the Minneapolis, St. Paul & Sault Ste. Marie Railway Company and the Chicago, Milwaukee & St. Paul Railway Company be and the same are hereby authorized and directed to refund to the Waukesha Lime and Stone Company the sum of $27.47.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF THE RATES, RULES AND REGULATIONS OF THE ASHLAND WATER COMPANY.

Submitted May 21, 1914. Decided July 10, 1914.

The city of Ashland petitioned the Commission for a rehearing in its investigation of the rates, rules and regulations of the Ashland Water Co., and a modification of its order in that case (February 17, 1914, 14 W. R. C. R. 1). The city contended that the value of the property of the company found by the Commission, and the rate of return contemplated by it in the schedule of new water service rates prescribed in the order in question were in excess of what was warranted under the circumstances of the case and that the result was an unduly high schedule of charges for water service.

Consideration of actual costs in the present case was apparently condemned by the city on account of the excessive value reached by the president of the company through a misapplication of the method of fixing value by actual investment. With respect to the physical property values the amounts allowed by the Commission for hydrants, filters, overhead general expenses, operating capital, pipe laying, and services were particularly challenged.

The rate of return contemplated by the schedule established February 17 was inferred by the city to be 5.8 per cent, and it was argued that such a return was far more than was justifiable under all the circumstances of the case; that any real estate owner in Ashland would now be amply satisfied with a net return of 4 per cent; and that a proper rate of return would be one not to exceed 4 per cent upon a reasonable estimate of the costs of reproduction, with increase later, if equitable, as town and business grew, to compensate for any present deficiency. It appears that conditions in Ashland are abnormal. The city covers an area that in size is out of proportion to its population and industries, and the population for some time has been decreasing rather than increasing. The cost per capita and per customer of the Ashland Water Works is about twice as great as the average of these costs for other Wisconsin cities, and the city officers feel strongly that the company should share with all other citizens and the city at large the effect of the abnormal conditions prevailing in Ashland. The fact that the present plant was largely built by bonds bearing six per cent interest is noted, and it is further noted that these bonds were necessarily sold at a discount, and that the city of Ashland itself has been paying 5 per cent interest on most of its own bonds. It seems that the city's expert placed the rate of return for interest and profit at 6 per cent on the fair value of the plant and business and not at a higher figure, on the ground, in his own words, "of the fact, now generally recognized, that under the Wisconsin Commission the operation of public utilities is attended with less hazard than is usually incident to such busi-

ness elsewhere"; that the Commission itself allowed earnings that would yield not far from 6 per cent on the estimated fair value of the investment; and that in doing so the Commission did not place them at a higher figure, such as would have represented ordinary returns for capital similarly invested, because of the exceptional conditions prevailing in Ashland.

Held: The valuation of a property on the basis of actual investment as one of the theories of valuation does not contemplate the substitution of estimates of cost of reproduction in place of the original and actual costs. A method which has long received the favorable consideration of the courts as one of the reasonable methods to be applied when possible should not be condemned simply because, through misapplication in certain cases, extravagant results may have been obtained. No weight can be given to results which are clearly and fundamentally erroneous. The city's apprehension that the Commission may have been influenced by the abnormally large valuation derived by the company's president is therefore unfounded. With respect to the physical property values, the difference between the cost of the hydrants now in use, and the cost of types of similar sizes regularly made and commonly carried in stock, should not be charged off as depreciation due to obsolescence, as contended by the city, since the company's judgment as to the superiority of the more expensive hydrants is not proven to be in error. The valuation formerly found for the hydrants is therefore allowed to stand. As regards the filters, the values arrived at by the city and the Commission are not so far apart that either can be considered very unreasonable. However, possibly a somewhat smaller amount should have been allowed as the cost of reproduction new of this item, though certainly not as much as intimated in the city's argument. A certain reduction is accordingly made in the allowance for the filters. The allowance of 15 per cent for overhead general expenses is not a greater allowance proportionately for that element of cost than has been made by the Commission in certain other cases of utility valuations, and no reason is seen why it is more than a proper addition in the present case. It is not clear that the amount formerly allowed as working capital can properly be reduced. In addition to meeting current operating expenses, the company must be prepared at all times to make extensions and improvements demanded as well as to take care of unusual emergencies which may arise. In the light of the arguments and additional evidence the conclusion is reached that the unit prices for pipe-laying used in the staff's 1912 valuation and accepted in arriving at the total valuation found by the Commission in its decision of February 17, 1914, are unduly liberal, and the allowance for pipe-laying is accordingly reduced. The aggregate amount of the tapping and connecting charges for services in the previous decision should possibly have been and is now deducted from the plant value, and, such being the case, must also be eliminated from non-operating revenues. After making due allowances for pipe and labor paid for by consumers, and for increased number of services in 1913 over 1912, the result of the staff's valuation of services is substantially in agreement with the result reached by the city's expert, and the latter's value is believed a fair one to adopt. The net result of all changes is to reduce the valuation of the physical value of the property $21,695 reproduction cost, and $20,503 present value. The total value, due consideration being given to a sum of $7,500 charged into a depreciation reserve, to working capital and going value, can hardly be regarded as materi-

ally less than $480,000. Should it be disclosed that the book costs, upon which the reductions in the value of the physical property are mainly based, were not correctly stated upon the records of the company, proper corrections may be necessary later.

Held: That the rate of return must take into consideration the abnormal conditions existing in Ashland, and that under such conditions it could not possibly be made as large as what would be considered reasonable under normal conditions, was fully recognized by the Commission in its previous order. On the other hand, the city can hardly claim with reason that the company will receive equitable treatment if it be allowed a smaller rate of interest than the city has had to pay on its own bonds. Had the city owned the waterworks, it is quite certain that, pledging the property of the plant only, it could not have obtained the required capital at a lower cost than that for which the present owners obtained theirs. The cost of capital and the enterpriser are fixed by economic forces, or laws in the open market, which cannot be controlled by the state, the city, or the Commission, and, in spite of the marked tendency of the operation of the Public Utility Law to reduce the risks and lower the cost at which capital can be had, the downward tendency is not always great enough to offset the abnormally low relative earnings sometimes encountered, and it has not been great enough to cause capital and the enterpriser in the public utility field to become so abundant that these factors can generally be had at as low a cost as 6 per cent on the investment. In fact, plants whose net earnings amount to less than about 7.5 per cent on the investment find it difficult to obtain the capital needed on reasonable terms. Were the conditions involved in the present case normal, the Commission would not hesitate to allow a sufficient amount in the way of earnings to cover the full cost of the necessary capital and managing ability as fixed in the open market under similar conditions. Such allowances are undoubtedly best in the long run for all concerned, as they result in an abundant supply of the factors of production, instead of restriction, and the promotion, rather than hindrance, of general development and prosperity. Under the abnormal conditions at Ashland, however, both the water company and its customers will, for the present at least, have to forego something to which they would otherwise be entitled. It is therefore deemed just and equitable to all concerned to temporarily alter the schedule of rates established by the order of February 17, 1914.

It is ordered: 1. that the charge to the city for hydrant rentals be reduced from $24,300 to $21,000 per annum; 2. that the flat rate part of the schedule for residence and commercial users be reduced by a somewhat smaller amount to the rates named in the present order.

The city of Ashland petitioned for a rehearing on the above entitled matter and a modification of the decision and order of the Commission dated February 17, 1914 (14 W. R. C. R. 1).

A rehearing was held in the city hall of the city of Ashland on May 21, 1914. In this the city was represented by *M. E. Dillon* and *Victor T. Pierrelee,* and the Ashland Water Company by *William Wheeler,* president, and *Sam Wheeler,* superintendent.

Written arguments by the attorneys for the city and a written reply thereto by the president of the company were subsequently filed.

It is contended, in the city's argument, that both the valuation found by the Commission for the property of the water company and the rate of return thereon contemplated in the schedule of new water service rates prescribed in the decision and order of February 17, 1914, were greater than were warranted by the circumstances of the case, the result being an unduly high schedule of charges for water service.

It is perfectly clear that the city officers feel quite strongly that the water company should share with all other citizens of Ashland and the city at large the effect of the very abnormal conditions existing there and that the effect of the decision and order of February 17 would be to throw the hardships of those conditions largely upon the city and its citizens. The Commission was quite conscious of the fact that Ashland suffered a loss in population and a general depression in business, with attendant hardships upon its people; also that the water works property clearly represented an abnormally large investment and value for a city of the size and condition of Ashland. Under such circumstances it would be quite unreasonable to expect that the rate of net earnings of the water plant could possibly be made as large as that which, under normal conditions, would properly be considered a reasonable rate.

The city infers that the rate of return contemplated by the schedule established on February 17 was 5.8 per cent. This, it argues, is far more than is justifiable under all the circumstances of the case. One of the contentions seem to be that the business hazards assumed by investors in Wisconsin utilities are less than those existing in other states, and therefore there should be a corresponding reduction in the rate of return. Attention was called to the fact that government bonds yield but 2 or 3 per cent interest. The claims were made that any real estate owner in Ashland would now be amply satisfied with a net return of 4 per cent and that the largest holder of rented tenements in the city derives a net income of less than 3 per cent upon the cost of his properties, which were built fifteen or twenty years ago. It is further claimed that were his income computed upon the cost of reproduction it would amount to less than 2 per cent. The arguments imply that, so far as private business is concerned, the foregoing is representative of the general conditions in Ashland.

It is stated that "a return of not to exceed 4 per cent upon a reasonable estimate of the costs of reproduction we regard as wholly fair to the company, and if too low in the judgment of the Commission, as the town grows and the business with it, the return may be increased to compensate for any present deficiency." The latter portion of this statement indicates a belief in the policy of still further increasing the past deficits which already amount to a large sum even when measured by a return of but 6 per cent. Under ordinary circumstances certainly nothing less than 6 per cent could be maintained to be a fair rate of return to utilities, even in Wisconsin, when it is usually impracticable for them to borrow the full face value of their securities at that rate. The city of Ashland itself has, according to certain information, been paying 5 per cent interest on most of its own bonds. City bonds, legally issued, are quite generally regarded as safer investments than those of a public service company. It is considered highly improbable that the city of Ashland could have built the existing water plant without borrowing the money and paying a substantially greater rate of interest thereon than it now argues would be a fair rate for the company to earn. Public utilities, including both municipally and privately operated, are usually built largely on borrowed capital represented by bonds. The same is true in this case and the bonds of the company bear 6 per cent interest. They were also necessarily sold at a discount. Had the city, instead of the company, built the plant, its ability to offer greater security might have enabled the city to obtain the required capital at a somewhat lower rate than private interests are required to pay. This ability to offer greater security lies in the city's power to tax all privately owned property within its borders. In issuing municipal water works bonds a city not only establishes for such bonds a first lien upon all privately owned property in that city, including public utilities, but it pledges its taxing power in so doing. Without establishing this first lien on all other property and without pledging its taxing power, and with only the plant itself pledged as security, it is very doubtful that the city could obtain money on terms even as favorable as those given to the private company. The city can hardly, with sound reason, claim that the water company in this case will be receiving equitable treatment if it be allowed a smaller rate of interest than

the city has had to pay on its own bonds, particularly when it is remembered that the company's bonds bear interest at 6 per cent and that even at this rate they had to be sold at a discount, this being in some cases as much as 10 per cent.

In determining the force of the arguments as to the low rates of interest obtained by investors in private business enterprises in Ashland, the matter must be viewed from the other side. The question would then be,—should there still be a close relation between the rate of return to the water company and that to other private investors if the latter were obtaining several times the rate now received, say 12 to 15 per cent or more. It is very doubtful that any such rule would be admitted to work both ways. It has not been shown, or apparently even claimed, that there are no private investors in Ashland who are making as much as 6 per cent or more on their investments.

The arguments made on behalf of the city have dealt quite extensively with the valuation of the Ashland water works as found by the Commission in its recent decision and order, and with the evidence which was before us, especially with the estimates prepared by the company's officers and that the city's consulting engineer, D. H. Maury. They have also discussed the theories upon which the values of such properties are to be ascertained.

In considering the valuation prepared and submitted by the company's president it is said: "Were the literature of valuations to be searched for examples of the fallacy and lack of logic of the method of fixing value by 'investment cost', it is doubtful whether any better illustration could be found than the enormous valuation already referred to as having been introduced in this case by the president of the water company."

This statement appears to be intended as a condemnation of the consideration of what actual costs have been. Such condemnation is apparently made because of the enormity of the results obtained, yet the fact that the enormity of the results was, in this case at least, due to a mixing of methods seems to have been overlooked. A method which has long received the favorable consideration of the courts as one of the reasonable methods to be applied when possible is not to be condemned simply because in certain cases it may have been misapplied and extravagant results obtained through its misapplication.

The sum of $1,141,917 obtained by William Wheeler on the basis of a 7 per cent return as the present earning value of the property was clearly due to a misapplication of the method. This fact was briefly referred to in the decision of February 17, 1914 (14 W. R. C. R. 1, 48, 54, 55), but may not have been made clear.

Instead of using the actual additional investments from year to year in making his earning value computations, Mr. Wheeler used a distribution of his estimate of cost of reproduction, which exceeded the actual construction cost. The obvious effect is to make the property values, and consequently the deficiencies in net earnings, below any assumed fair rate of return, greater than they really are.

In his "Distribution by years", Table I, of his Exhibit B, Mr. Wheeler showed a plant value at the end of 1892 of $328,660, and at the middle of 1913 of $611,473, an increase of $282,813. From February 28, 1893, to June 30, 1913, the yearly amounts of "Additional construction", as submitted by the company and presented on page 50 of the recent decision, (14 W. R. C. R. 1) aggregate $240,415.57 when the expense of relaying the intake is included as additional construction. The reconstruction of old features is hardly to be regarded as new or additional construction, hence the expense of relaying the intake should be deducted from the sum of $240,415.57 noted above. The result is the cost of the actually new construction between February 28, 1893, and June 30, 1913, namely $211,681.07.

This latter amount is $71,132 less than was apportioned to almost identically the same period in Mr. Wheeler's distribution by years of his estimate of cost of reproduction. The various circumstances of the case make it appear quite probable that values greater than the actual cost were also apportioned to the features constructed prior to 1893.

The theory of measuring value by actual investment does not contemplate the substitution of estimates of cost of reproduction in place of the original and actual costs. The large and fundamental error in Mr. Wheeler's earning value computations, resulting in the great sum of $1,143,917 for June 30, 1913, was clearly recognized by the Commission before making its decision of February 17, 1914.

The city's apprehension that the Commission may have been influenced by the abnormally large valuation derived by the

company's president is therefore entirely unfounded, as no weight can be given to results which are clearly and fundamentally very erroneous.

Physical Property Values.

Coming now to the valuation of the physical property alone: It is noted that the city argues that the estimates made by its expert, D. H. Maury, were liberal in every respect toward the company, and that the values found by the Commission should not exceed his estimate on any single item. It is urged that Mr. Maury was wholly disinterested, was left entirely free to reach his own conclusions, that he possessed very large experience in construction and valuation, and that he had accepted without question the figures of the company's witnesses on all items except those of which he had very good reason to believe were too high.

Special attention was given in the arguments to the items of pipe laying, hydrants and connections, services, filters, overhead general expenses and operating capital. Although it does not appear that the rehearing resulted in the presentation of any new evidence of consequence as to the proper allowances for these or any other items, they will be given reconsideration in the light of the arguments and also in the light of additional evidence found by the Commission.

Pipe Laying. The city's discussion on this item is confined to the allowances for laying the cast iron mains only, which appear to account for 91.12 per cent of the total mileage. The allowances made in the four valuations are as follows:

William Wheeler, (1913)	$68,413
Sam Wheeler, (1913)	68,633
D. H. Maury, (1913)	52,481
Commission staff, (1912)	62,557

Valuations of the Ashland water works were made in 1908 by both the Commission's staff and the superintendent of the company. The pipe mileage at that time was less than that included in each of the above estimates, so that without modification on account of such difference the totals allowed for pipe laying then and now are not on a comparable basis. On applying the unit prices used in the two earlier valuations to the mileage shown by

the later ones, we arrive at the following totals for laying the cast iron mains:

Sam Wheeler	$62,952.58
Commission staff	52,839.42

The latter figure shows that the original judgment of the Commission's engineers as to cost of pipe laying in Ashland, as expressed in the unit prices used in the 1908 valuation, is substantially in agreement with the estimate made by the city's expert in 1913.

A closer examination of the company's annual reports to the Commission for the years ending June 30, 1909, 1910, 1911, 1912, and 1913, has been made to ascertain what light they throw on the cost of laying water pipe in Ashland. The data therein contained pertain to both cast iron and some small wrought mains, and the material and labor costs on the different kinds and sizes are not separately shown. During those five years the lengths and costs total as follows:

482	lin. ft. of	¾″	main
485	"	1 ″	"
698	"	1¼″	"
46	"	4 ″	"
1,391	"	6 ″	"
1,909	"	8 ″	"
1,827	"	10 ″	"

6,838 lin. ft. of all sizes cost $6,258.27

The same lengths of the various sizes when valued according to the unit prices used in the staff's 1912 valuation would represent a sum of $6,885.32 or fully 10 per cent in excess of the actual cost. There is a question as to whether or not the lower actual cost for this portion of the system was wholly due to less than average cost of materials. The valuations made by the staff are customarily made on the basis of normal prices of materials and labor. Normal prices of at least some construction materials are gauged by a five-year average. The 6,838 lin. ft. of mains above noted were all reported in the last four years of the five-year period ending June 30, 1913, over 84 per cent of the total cost being shown in the 1912 annual report. Approximately 13.6 per cent of the total cost was contained in the 1910 report. The mains laid during these four years represent 4.2 per cent of the total mileage.

Investigation of the variation in current prices of materials during this period does not substantiate the assumption that the above mentioned difference is largely due to less than normal costs of materials. The obvious conclusions are that the unit prices for pipe laying used in the staff's 1912 valuation, which were accepted in arriving at the total valuation found by the Commission in its decision of February 17, 1914, are unduly liberal.

The amount arrived at by applying to the revised mileage the unit prices representing the original judgment of the Commission's engineers as to proper costs of such work is doubtless substantially correct, and is checked very closely by the estimate by the city's expert and by the company's actual costs. The allowance for pipe laying made in the recent previous decision may therefore be reduced from $62,557 to $52,839, as cost new.

Hydrants and Connections. The city appears to contend that the difference between the Commission's allowance for the cost of the Holly and Gaskill hydrants and the cost of the same number of other types should have been charged off to depreciation through obsolescence, on the ground that those hydrants are not longer being manufactured except upon special orders which are largely from plants having adopted those types many years ago. The Holly and the Gaskill hydrants apparently cost considerably more than similar sizes of various other types which are widely used and are regularly made and carried in stock. The company in this case has installed quite a number of hydrants of another such type but is understood to have returned to the use of the Holly and Gaskill hydrants.

It is difficult to see what object the company could have in paying more for hydrants or any other features than is necessary to get satisfactory articles, particularly when it is remembered that the investment in the plan has long been so large as to make it almost impossible to obtain net earnings sufficient to pay a fair rate of return thereon. The company evidently finds the Holly and Gaskill hydrants more satisfactory than others, and in their judgment worth the difference in price.

On hydrants and their connections with the mains the city's expert estimated a cost of reproduction amounting to $11,009 by using the same price for the Holly and Gaskill as for the Mathews hydrants. The staff's corresponding estimate was $13,071 and those made by the company's president and superin-

tendent were respectively $15,229 and $15,074. The difference involved is roughly from two to four thousand dollars. The estimate made by the Commission's staff was adopted in the decision made in February.

It is understood that the city, in fixing the present value, would have the difference between $13,071 and $11,009 charged off as depreciation due to obsolescence before ascertaining and deducting the amount of depreciation due to natural deterioration accruing through service. The propriety of so doing is not clear. The company's judgment as to the superiority of the more expensive hydrants is not proven to be in error. In the absence of such proof the valuation formerly found will be allowed to stand.

Services. The service pipes from main to curb cock appear to have been laid at the expense of the company in all but about 800 cases wherein the consumers paid for the pipe and labor and the company, as usual, furnished the lead and brass goods and curb box and tapped the main. The company's practice and rule has been to make a tapping and connecting charge of $3.25 per service. The aggregate amount of such charges (estimated as $7,793.50) was not deducted from the plant value as possibly it should have been. The usual method of treating such receipts has been to class them among the miscellaneous non-operating revenues. Allowance has been made for them in that way. If taken out of the plant value these receipts must also be eliminated from non-operating revenues.

Deducting from the staff's valuation the estimated amount represented by pipe and labor in 800 services paid for by consumers, as was done in the previous decision, also the sum of the tapping charges collected by the company from consumers, leaves a cost of reproduction to be borne by the utility amounting to $15,350.50. Deducting the sum of the tapping charges from Mr. Maury's estimate results in a net amount of $16,130.50 instead of $16,141.00 as stated in the city's argument.

We note that the two valuations made by the company's officers and the one made on behalf of the city by Mr. Maury include pipe and labor for 1,398 services, goosenecks for 1,970, stop cocks and valves for 1,401, curb boxes for 2,217 and cartage for 2,398 services. Apparently these valuations have intentionally omitted the materials and labor paid for directly by consumers as the latter number appears to be substantially the correct num-

ber of services. All materials and labor for 2,398 services were included in the sum of $29,864 in the 1912 valuation prepared by the staff, from which $6,720 was deducted on account of pipe and labor paid for by consumers. Some allowance is to be made for the increased number in 1913 over that in 1912. The result derived from the valuation by the city's expert, being substantially in agreement with that by the staff when corrected for the increased number, is probably a fair value to use for the purposes of this case.

Filters. Counsel for the city states, "To this item the Commission has taken a figure practically the same as that of Mr. Sam Wheeler [superintendent of the company] and about $8,000 larger than that of Mr. Maury." As a matter of fact the three figures were as follows:

Commission	$47,133
Sam Wheeler	50,488
D. H. Maury	42,570

It will therefore be seen that the revised estimate by the staff which was adopted by the Commission for the purpose of this case, was $3,555 less than that of Mr. Sam Wheeler and only $4,563 instead of about $8,000 in excess of Mr. Maury's estimate. Counsel for the city has evidently failed to note the statement on page 36 of the former decision (14 W. R. C. R. 1) relative to two other items aggregating $3,216, which was for uncompleted work in connection with the new filters, including the installation of automatic flow controllers, arrangement for which was understood to have then been made by the company.

The Commission's figure on the original filters and appurtenances was 10.7 per cent and that of the company's superintendent was 18.6 per cent in excess of Mr. Maury's. It may be true that a somewhat less amount should have been allowed as the cost of reproduction new on this item. There certainly is not, however, a basis for reduction of the former allowance by as much as $8,000, as intimated in the city's argument.

The value estimated by the city's engineer for the original filters was arrived at in a way which seems to entitle it to much weight, but whether due allowance has been made therein for the net increase in cost of materials and labor since the original construction is not altogether certain. No allowance seems to have been made for contingencies beyond such as may have occurred on the original work in addition to that which was eliminated

from consideration by the city's engineer. He eliminated the extra cost which was involved in the original construction on account of a portion of it, at least, having been done during winter months.

The work was done by the company's own forces, the cost including no profit to contractors. It may well be doubted that either the city or the company could now have exactly similar work executed by any contractor for less than was estimated by the staff and allowed in the former decision, even though it were possible for the company, in the absence of all contingencies, to duplicate the work at Mr. Maury's estimate. The two figures are hardly so far apart that either can be considered very unreasonable. So far as the weight of evidence shows, it appears that either may be about as near correct as the other and we shall consider $45,000 as a fair figure to use in this matter.

Overhead General Expenses. Counsel for the city says, "In the recent decision of the *Company* touching upon this phase of the case the Commission indicates that the figures furnished by the city's expert under this head was $68,326 [page 44 of the decision]. The facts are that the city's figure under this head was $65,326 (new) or $3,000 less than the amount suggested by the Commission." We know of no decision of the company and we not only find no reference whatever on page 44 of our former decision (14 W. R. C. R. 1) to the matter of overhead general expenses but we find, on page 45, the city's figure of $65,326 was correctly quoted.

In saying, "It is admitted that the allowance in this case should be increased from 12 to 15 per cent of the value as herein determined", there was no intention to imply that the city made any such admission. The admission was that of the Commission as to the propriety of a change suggested by the staff in its own previous estimates.

It is noted that the city's own expert, instead of adding 15 per cent to his estimates on physical property items to cover overhead general expenses as stated in the city's arguments, actually added very nearly 15½ per cent or, more precisely, 15.4723 per cent.

Whether or not the city admits the justice of allowing as much as was conceded by its own expert to be fair, there appears no reason to believe that 15 per cent is more than a proper addition for that element of cost in the case of a plant such as is here under consideration. This is not a greater allowance, proportion-

ately, than has been made by this Commission in certain other cases of utility valuations.

Operating Capital. The allowance of $15,000 made by the Commission is objected to by counsel for the city, who urge that not more than $5,000 is necessary as operating capital.

Apparently no consideration is given to the fact that the company has more than current operating expenses to be prepared to meet. It must be prepared at all times to make the extensions and improvements demanded as well as to take care of the unusual emergencies which may arise. In the event of a shortage of funds of its own available for such expenses the company would be obliged to borrow and pay interest, provision for which was not made in the new schedule of rates.

The company's income from the public hydrant service is apparently not received quarterly, as stated in the city's argument. It is asserted in the reply of the company that bills have been rendered semiannually for the six months periods ending March 31 and September 30 each year, and for several years past have been paid once a year only, usually in the month of February for the year beginning April 1 preceding.

The company's balance sheets in the annual reports on file of course show the amounts of cash on hand and bills receivable at the close of each fiscal year only. The amounts must continually vary during each year. In the five annual reports now on file it is noted that the sum of these two items has varied for June 30 from $5,670.95 to $14,321.99. With hydrant rentals being paid but once each year the item of bills receivable alone will likely amount to more at certain times than was allowed as working capital in the former decision.

It is not clear that the amount formerly allowed as working capital can properly be reduced.

Net Change in Valuation. The amounts by which it now appears the valuation found in the February decision may properly be reduced are as follows:

	Reproduction cost	Reproduction cost less depreciation
Pipe laying	$9,718	$9,426
Services	7,014	6,313
Filters	2,133	2,090
Total	$18,865	$17,829
15 per cent on same	2,830	2,674
Grand total	$21,695	$20,503

The foregoing changes in certain items result in the following revised valuation of the physical property:

		Reproduction cost.	Reproduction cost less depreciation.
A. Land		$5,100	$5,100
B. Transmission and distribution.			
1. Mains.			
(a) C. I. pipe	$96,846		
(b) Valves and boxes	4,292		
(c) Cartage	1,408		
(d) Laying C.I. mains	52,839		
(e) Small mains	3,616	159,001	155,103
2. Hydrants and connections		13,071	10,849
3. Services		16,130	14,667
4. Meters		8,247	5,623
5. Suction system		48,000	47,040
C. Buildings and miscellaneous structures.			
1. Pumping station buildings		14,000	11,200
2. Reservoir		13,000	12,220
3. Wells		4,600	4,508
4. Filters, old		45,000	44,100
Filters, new			
Amount completed		26,977	28,977
Required to complete		3,216	3,216
5. Miscellaneous buildings		6,000	4,800
D. Plant equipment		34,604	22,163
E. General equipment		4,919	2,765
F. Paving		1,000	960
Total		$404,865	$373,291
G. General expenses (15)		60,730	55,994
Total		$465,595	$429,285
H. Materials and supplies		3,057	3,057
Total		$468,652	$432,342

The utility's accounts show a total of $7,500 charged into a depreciation reserve during the three years 1911, 1912 and 1913, and this should receive consideration. When it and the going value and working capital are considered in connection with the physical property, the total value can hardly be regarded as materially less than $480,000. The valuation made by the engineer employed by the city was slightly in excess of this figure, largely by reason of his inclusion of all the paving then over the mains and services, although he inadvertently omitted allowance for working capital. The substitution of a proper allowance for working capital in place of his allowance for paving which was not disturbed by the company in its construction work would bring his total substantially in agreement with the value stated above.

Effect on Rates. The foregoing modification of the former physical valuation would seem to affect the amount of gross earnings to the extent of interest and depreciation on property rep-

resenting $20,503. If interest on this amount be computed at 6 per cent and depreciation at 0.7 per cent, the reduction affected in gross earnings is $1,374.

A reduction of this much in the rates authorized by the Commission February 17, last, is more of a reduction than could be fairly made if the plant was operating under conditions that could be regarded as normal. In fact, in that case these rates might have to be increased rather than reduced. The conditions surrounding the Ashland water works, however, are abnormal. The city covers an area that in size is out of proportion to its population and industries. This means that more miles of mains and greater pumping capacity is required to serve the people of the city than would be the case if the population was less scattered. The population of Ashland for some time has also been decreasing rather than increasing. These and other facts of this nature should perhaps be given more consideration than was accorded to them in the above named order.

The cost per capita and per customer of the Ashland water works is about twice as great as the average of these costs for other Wisconsin cities. In 1910 for instance, Madison, with 121 per cent more population than Ashland, had only 66 per cent more water pipe mileage than Ashland, while the diameter of the mains was on the average 32 per cent greater in Ashland than in Madison. The cost per customer of the water works in the two cities was $248 in Ashland and $132 in Madison. The Ashland water works is in fact so large and so well constructed that it is very doubtful whether the city, if it had owned the plant, would have invested so liberally therein and would have developed the plant on so extensive a scale as the present owners. Attention is called to these facts not for the purpose of conveying the impression that the Ashland plant has excessive capacity or that it is more costly than necessary, but simply because they vitally affect the cost of the service which this plant renders. The city of Ashland is fortunate rather than otherwise in having its water works owned by parties whose financial position was such that they could be required to provide such a plant as the one it now has, even though it did not earn the ordinary returns upon the investment.

If the city owned the water works it is possible that, by pledging all of its taxable property as well as its powers of taxation, the city could have obtained the capital required for the con-

struction of the water works at a somewhat lower rate of interest than the rate at which the capital for the present plant was obtained. It is also possible that the city in operating its own plant could keep down the executive salaries to a slightly lower figure than the salaries now paid by the existing company. When it comes to the remaining expenses that enter into the cost of the service, however, the situation in this respect is likely to be reversed. While municipal operation is more successful in the case of water works than in the case of other public utilities, it is more than likely that the increase in the other operating expenses under such operation would fully offset the decrease in the fixed charges. These statements are especially true in cases where as much is demanded in the way of facilities and service of municipally owned as of privately owned plants. The tendency to demand more in the way of service in the latter case, however, is in most places quite marked, and this of course has a material affect upon the expenses. If the city, in obtaining capital for the plant, had pledged the property of the plant only, it is quite certain that it could not have obtained this capital at a lower cost than that for which the present owners obtained their capital.

Since this Commission has been severely, not to say intemperately criticised for its conclusions and order in its decision of February 17, last, a few facts bearing upon the justice of these criticisms and the consistency of at least some of those who were responsible for them may be in point. The records in the case show among other things:

That the city of Ashland employed an expert in the case who was said by the city—and we think justly—to be competent, honest and unbiased and who examined the facts involved and investigated the situation generally and furnished testimony upon these points in the case, which testimony the city has also pointed to as fair and just under the circumstances.

That this expert placed the fair value of the plant and its business, including working capital, at not far from $495,000; while this Commission placed this fair value for the purposes of the case at about $500,000; and that this value was placed at much higher figures by the representatives of the water company;

That the said expert placed the fair annual gross earnings of the plant at about $67,000; while this Commission allowed annual gross earnings at about $68,000, including additional or

new expenses involved in the improvement of service as ordered, on a rate schedule under which these earnings would somewhat decrease with increases in proportion of those who used meters; and that the representatives of the water company placed the fair earnings at much higher figures;

That the expert placed the cost of the fire service or hydrant rentals at $27,440 annually; while the Commission allowed $24,300 for this purpose.

That the city's expert placed the rate of return for interest and profit at 6 per cent on the fair value of the plant and the business; that in his notes on going value which were submitted in the case he stated among other things that: "over and above operating expenses, depreciation and taxes the rates charged by the water works for its services should yield a net return of at least 6 per cent on the gross sum of its physical property, going concern value, and necessary operating capital;" that he placed "this net earnings at 6 per cent instead of at a higher figure because of the fact, now generally recognized, that under the Wisconsin Commission the operation of public utilities is attended with less hazard than is usually incident to such business elsewhere";

That this Commission also allowed earnings that would yield not far from 6 per cent for interest and profits on the estimated fair value of the investment. These earnings were placed at these figures, not because it was believed that they represented the ordinary returns for capital similarly invested, or that in the long run the necessary capital and enterprise can be had for such returns, but because the Commission felt that—although little or no testimony had been introduced upon this point—the conditions in Ashland were such that, for the present at least, it would not be fair or to the best interest of all concerned to allow higher earnings.

Upon most of the vital points in this case there is thus substantial agreement between the testimony and opinions upon which the city relied in the case and the conclusions and rates as promulgated in the order of the Commission. Yet, the former is held to be fair and just, while the order of the Commission is characterized as unfair if not dishonest.

It is a fact that, as has been stated by the city's expert, the operation of the Public Utilities Law in this state has had a marked tendency to reduce the risks involved in the business and

hence to lower the cost at which capital can be had in the public utility field. It is also a fact that the public is given the benefit of these reductions, for the allowances for interest and profits which the Commission includes in the cost of the service upon which the rates are based are for these reasons gradually growing smaller. We regret to say, however, that this downward tendency in the cost of obtaining capital for public utilities in this state is not always great enough to offset such abnormally low relative earnings as are sometimes encountered, or to have caused the capital and the enterpriser in this field to become so abundant that these factors can now be generally had at as low a cost as 6 per cent on the investment.

The rates of return for interest and profits depend upon the risks involved, the state of the money market, the nature of the business, and upon many other factors of this nature. Some idea of what capital and the enterpriser can now be had for by public utilities may be gleaned from the prices at which their securities are selling. During the past few years, for instance, good bond issues have been selling on bases upon which the cost to the company, when discounts and selling expenses are taken into account, averages a little more than 6 per cent. The bonds in these cases, however, did not cover more than 80 per cent of the value of the property behind them. They were also secured by a regular net earnings of the plants that amounted to about twice as much as the interest charges on the bonds. Had in these cases the bonds covered a greater proportion of the value of the plant than they did, and had the net earnings of the plant been less or more irregular than they were, then it is also certain that the bonds would have sold on bases under which the cost to the companies would have been still greater. Now if the better secured part of the capital, that which is represented by the bonds, cannot be had at a less cost than 6 per cent, it is quite obvious that that part of the capital which is represented by the stock and which is much less well secured, commands in the long run much higher rates than 6 per cent. In fact, the situation in this respect is such that plants whose net earnings amount to less than about 7.5 per cent on the investment find it difficult to obtain the capital needed on reasonable terms.

The cost of capital and of the enterpriser are fixed by economic forces or laws in the open market. These laws cannot be controlled either by the state, the city or this Commission. Pub-

lic utilities, like everybody else, must pay the market prices for what they need. Exceptions to this are only temporary in their nature. This Commission has been made aware of this in more ways than one. For instance, where the existing rates for services yield less than the market rate for interest and profits, the utilities often find it impossible to obtain capital for new and much needed extensions to the plant until the Commission has authorized such increases in the charges for their services that the returns are brought up to the level of the general market. In other cases, again, where the Commission has happened to make so great reductions in the charges for service that the returns upon the investment were brought down below the market or reasonable level, the Commission has had to retrace its steps and to raise the rates up to the requisite level before the utilities could obtain the necessary capital for such additions to the plant and to the service as were demanded and needed by the public.

These and other facts of the kind illustrate quite fully the fact that each of the factors of production, the same as commodities and services generally, have their market prices, and that these factors, the same as commodities and services generally, cannot be had in the long run unless these prices are paid.

The reductions which in the instant case have been made in the cost of pipe laying, services, and filters, and consequently in the valuation of the physical property, are mostly due to the fact that for the purposes of this case it was thought best to use the cost for these items as shown on the records of the company rather than the cost as computed from the market prices of the elements which enter into these costs. Should it be disclosed that these book costs were not correctly stated on the records of the company, then it may of course be necessary to make the proper corrections later on.

Were the conditions involved in this case normal, the Commission would not now hesitate to allow as much in the way of earnings of the plant as would be sufficient to cover the full cost of the necessary capital and managing ability as fixed in the open market under similar conditions. Such allowances in the long run are undoubtedly the best for all concerned for under them the supply of the factors of production becomes abundant instead of restricted and general development and prosperity is promoted rather than retarded. In fact, no city in the long run can ever hope to obtain service or the factors involved in it for less

than their fair market price. But the conditions at Ashland and which surround the Ashland Water Company are, as stated, abnormal. They appear in fact to be such that both the water company and its customers, for the present at least, will have to forego something to which under more normal conditions they would have been entitled. For these reasons mainly we deem it just and equitable to all concerned to temporarily alter the schedule of rates established by our order of February 17, 1914, by reducing the charge to the city for hydrant rentals from $24,300 as named therein to $21,000 per annum, and by temporarily reducing the so-called flat rate part of this schedule for residence and commercial users by a somewhat smaller amount, or to the rates named in the order herein. It is further deemed fair under the circumstances that the said fire hydrant charge as thus reduced shall go into effect with the beginning of the current billing period April 1, 1914, and that the said flat rate part of the schedule shall go into effect July 1, 1914.

IT IS THEREFORE ORDERED, That the order of this Commission dated February 17, 1914, be so amended that the charge to the city for fire service on hydrant rentals be $21,000 per annum and that this charge shall become effective April 1, 1914.

IT IS FURTHER ORDERED, That the flat rate part of the said order of February 17, 1914, be so amended as to read as below; and that the said flat rates as so amended and given below go into effect July 1, 1914.

IT IS FURTHER ORDERED, That, with the exception of the hydrant rentals to the city and the flat rates to private consumers named herein, all the rates given in the said order of February 17, 1914, go into effect July 1, 1914.

The flat rates named thus provided by this order read as follows:

	Flat rates as revised
Alcohol, each barrel	$0.09
Ale cellar	9.00
Bakery, each oven	9.00
Barber shop, one chair	7.00
Each additional chair	3.50
Bath tub, private, used by one family	5.50
Used by more than one family, each	4.00
Bath tub, public	12.00
Beer, each barrel brewed	.06
Beer house	9.00
Billiard saloon, each table	3.50

Boarding house, sewered, 7 rooms or less	$12.00
Each additional room	1.00
Boarding house, not sewered, 7 rooms or less	11.00
Each additional room	.75
Book bindery	9.00
Brickwork, per 1,000	.09
Candy manufacturing or confectionery	9.00
Church	5.50
Church baptistry	5.50
Cigar manufacturing, per hand	1.70
No license less than	10.00
Club room	17.00
Coffee saloon	5.50
Concrete work per cu. yd	0.055
Dram shop	14.00
Dyeing and scouring	14.00
Forge, each	3.50
Fountain, standard, running not more than 4 hours daily for 6 months	12.00
Hall	17.00
Hat manufacturing	14.00
Horse	1.70
Hose for private stable	5.50
Hose for lawn or street sprinkling used not more than four hours daily for 6 months on 50 feet frontage or less	5.50
Additional frontage per ft	.11
Ice cream parlor	12.00
Livery stable per stall	3.00
Office	5.50
Oyster house	9.00
Photograph gallery	17.00
Plastering, per sq. yd	.00¼
Residences without sewer or cesspool, one family one faucet, 4 rooms or less	6.00
5th, 6th and 7th rooms	1.00
each additional over 7	1.00
Residences with sewer or cesspool, one family, one faucet 4 rooms or less	7.00
Each additional room to 7	1.50
(Bath tubs, toilets, hose or other fixtures charged separately)	
Restaurant	17.00
Sales stable, per stall	2.30
Shop or store	12.00
Stonework, per 100 cu. ft	.055
Tobacco factory, per hhd. manufactured	1.15
Urinal, private, self closing fixture	2.40
Urinal, public, self closing fixture	4.50
Urinal, constant flow	7.00
Vegetable spray per season	5.50
Vinegar, each barrel manufactured	.055
Washing bottles	5.50
Washing barrels, each	.05
Water closet, private, for 1 family	4.50
Used by more than one family, each	3.50
Water closet, public	9.00

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF THE RATES, RULES AND REGULATIONS OF THE MOSINEE ELECTRIC LIGHT AND POWER COMPANY.

Submitted July 2, 1914. Decided July 10, 1914.

Application was made to the Commission by the Mosinee El. Lt. and P. Co. and by the village of Mosinee to fix rates for electric current furnished to the village of Mosinee for operating the pump at its pumping station. The value of the additional investment made by the company to supply current for pumping was appraised by the Commission, and the cost of further equipment necessary to prevent interruptions of the service during electrical storms was also considered. In the light of the facts before the Commission it appears that the first step of the rate schedule proposed by the utility is substantially correct, but that the other rates may be somewhat lower than those proposed. The utility is ordered to charge the rates fixed by the Commission.

This matter has to do only with the rates for electric current furnished to the village of Mosinee for operating the pump at its pumping station. At the time of its decision in the case of *In re Investigation Mosinee El. Lt. & P. Co.* Feb. 9, 1914, 13 W. R. C. R. 712, the facts necessary for the determination of a pumping rate were not before the Commission. The electric company and the village later failed to agree upon the rate for power, and both parties asked the Commission to fix a rate. Notice of investigation and hearing having been waived by the parties concerned, hearing was held at Mosinee on July 2, 1914.

W. A. Von Berg appeared for the company, and the village was represented by *H. B. Hanowitz* and other members of the village board.

Prior to the hearing the company submitted a statement showing the additional investment which it had made in order to supply current for pumping, and an appraisal was made by a member of the Commission's staff. The investment, as reported by the company, was $308.19, and the figure obtained by the Commission's inspector was $304.79. There was no question raised at the hearing as to the value of this property.

The testimony, which there seems to be no reason to question, shows that at present the company from which the electric util-

ity buys its current disconnects the utility's transmission line during severe electrical storms, as a measure of protection to the equipment at the power station, and that in order that service may not be interrupted during storms, a lightning arrester and a transformer must be installed by the electric utility at the power station. The estimates of cost of this equipment range from $750 to about $900. The installation of this equipment is of especial importance to the village in order that pumping may be done in case of fires occurring during electrical storms.

No apportionment of existing property has been made between the general business and the power service, but from the facts regarding the total amount of current sold, which were submitted as a part of the evidence in this case, it seems that the power service to the pumping station will be meeting less than its actual cost if it does not yield a return on approximately $400, including the existing equipment which is used for this purpose only, a proper share of the protected equipment necessary, and a small portion of other equipment of the utility.

An allowance of 15 per cent to provide for interest, taxes, and depreciation of this equipment would amount to $60 per year. Testing the meters, and the cost of ordinary maintenance of equipment will bring this up to about $70 per year.

The utility pays 3 cts. per kw-hr. for its current. No accurate record of line losses is available, but they will hardly be less than 10 per cent. With line losses amounting to 10 per cent, the losses alone would raise the cost of current to 3⅓ cts. per kw-hr.

The records of current used for pumpage show that the use has ranged from 165 kw-hr. to 873 kw-hr. per month. Two rather bad leaks in the water distribution system, however, made the pumpage abnormal for certain months.

At the hearing witnesses estimated the normal use of current, even with an added number of water users, at an average of 250 kw-hr. per month, including the current required for an electric tank heater during the winter. All water is to be metered and leaks have been repaired, so that an average monthly use of 250 kw-hr. seems approximately correct.

If we assume that 3,000 kw-hr. will be used for pumping during a year, the interest, depreciation, taxes and maintenance will amount to 2⅓ cts. per kw-hr.

The rates proposed by the utility for the pumping services are as follows:

Up to and including 200 kw-hr. per month, 6 cts. per kw. hr.
200 to 300 kw-hr. per mo. 5.5 cts. per kw-hr.
300 to 500 kw-hr. per mo., 5 cts. per kw-hr.
500 to 700 kw-hr. per mo., 4.5 cts. per kw-hr.
700 to 1,000 kw-hr. per mo., 4.2 cts. per kw-hr.
1,000 kw-hr. and above per mo., 4 cts. per kw-hr.

From the facts available, the first step of the rate schedule proposed by the utility appears to be substantially correct. Rates for use in excess of 200 kw-hr. per month may be somewhat lower than those proposed by the company. In the light of all the facts which have been presented, a schedule of rates as stated in the following order appears reasonable.

IT IS THEREFORE ORDERED, That the Mosinee Electric Light and Power Company shall charge for current supplied to the village of Mosinee for power and heating purposes at its pumping station, the following rates:

For the first 200 kw-hr. per month, 6 cts. per kw-hr.
For the next 100 kw-hr. per month, 5 cts. per kw-hr.
For all over 300 kw-hr. per month, 4 cts. per kw-hr.

PENNSYLVANIA COAL AND SUPPLY COMPANY
vs.
CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Submitted Dec. 9, 1913. Decided July 15, 1914.

Complaint was made that the rates on hard coal from Oshkosh and Fond du Lac to Milwaukee are unreasonable. It appears that the rate on hard coal from Milwaukee to Fond du Lac and Oshkosh is 75 cts. per net ton, while the rate from Fond du Lac to Milwaukee is $1.20 per net ton, and from Oshkosh to Milwaukee is $1.30 per net ton. Through an error the petitioner shipped 3 cars of hard coal to Fond du Lac, and one to Oshkosh and was later obliged, in bringing these shipments back, to pay 55 cts. per net ton more in the case of the haul from Oshkosh to Milwaukee than from Milwaukee to Oshkosh, and 45 cts. more per net ton on the haul from Fond du Lac to Milwaukee than from Milwaukee to Fond du Lac. Petitioner asks refund to cover the amount of the excess charge in the reverse movement over that in the going movement, and that the tariff on hard coal be changed to read "between Milwaukee and" certain other points in the state, instead of "from Milwaukee to" these points. From an analysis of the cost of coal movements over the road of the respondent for several years past it appears that the going rate of 75 cts. per net ton to Fond du Lac and Oshkosh allows the carrier to pay all operating expenses and have something to pay a reasonable return on the investment necessary to carry on the business. It also appears that there is very little coal moving into Milwaukee from inland towns.

Held: The fact that there is very little coal moving into Milwaukee is not sufficient reason why an occasional shipment of coal should not be given a reasonable rate on the basis of the cost to the carrier of performing the service. The rates in question from Oshkosh and Fond du Lac to Milwaukee are unreasonable to the extent that they exceed the going rate. Refund is ordered on that basis, and the respondent is further ordered to change its tariff on coal to read "between Milwaukee and" the cities of Fond du Lac and Oshkosh, instead of "from Milwaukee to" Fond du Lac and Oshkosh.

The petitioner, the Pennsylvania Coal and Supply Company, is a wholesaler of coal, its offices being located in Milwaukee and loading chiefly in the Canal and Fowler districts in that city. In December 1912 the petitioner appears to have shipped three cars of hard coal to the Bloedel Fuel Company of Fond du Lac and one car to the Oshkosh Pure Ice Company of Oshkosh. The shipments to both Fond du Lac and Oshkosh were made in error.

The petitioner attempted to market these shipments of coal, but was unable to do so, and, after paying substantial demurrage charges was finally obliged to bring them back to Milwaukee to be unloaded there at its plant. The petitioner states that more coal had been shipped than could be marketed in these cities, while the respondent questions the quality of the coal. Petitioner claims the fact that the coal was wet had nothing to do with the case.

The rate on hard coal from Milwaukee to Fond du Lac and also from Milwaukee to Oshkosh is 75 cts. per net ton, while the rate from Fond du Lac to Milwaukee is $1.20 per net ton, and from Oshkosh to Milwaukee, $1.30 per net ton. The petitioner was obliged to pay 55 cts. per net ton more in the case of the haul from Oshkosh to Milwaukee than from Milwaukee to Oshkosh, and 45 cts. more on the haul from Fond du Lac to Milwaukee than from Milwaukee to Fond du Lac, as shown in the following table:

Initial and Car No.	Billed 12-28-12 at 75 cts. per net T. From Milw. to	Going charges.	Net Wt.	Billed back to Milwaukee.				
				Date.	Rate per net ton.	Returning charges.	Car service charges.	Refund asked by petitioner.
C. M. & St. P.—34996...	Fond du Lac.	$16 16	43,100	1-10-13	$1 20	$25 86	$2 00	$9 70
M. P.—19688.....	"	20 44	54,500	1-10-13	1 20	32 70	6 00	12 26
C. M. & St. P.—33654..	"	16 24	43,300	1-10-13	1 20	25 98	10 00	9 74
P. R. R.—15312.....	Oshkosh.....	25 54	68,100	2-11-13	1 30	44 26	32 00	18 72
							$50 00	$50 42

It is on the return payments that petitioner brings complaint and requests both that a refund be granted in this case covering the amount of the excess charge in the reverse movement over that of the going movement; and also that the tariff on hard coal be changed to read "between Milwaukee and" certain other points in this state instead of "from Milwaukee to" these points.

The respondent, in its answer and in the testimony presented at the hearing, says that the published rates were charged, that these rates are reasonable and not exorbitant and that there is no basis for requiring the same rate to apply on the commodity in question from Fond du Lac and Oshkosh to Milwaukee, as applies from Milwaukee to those points. They state that the trans-

portation and traffic conditions are in a great many respects dissimilar, which dissimilarity is sufficient to warrant the present rate situation.

A hearing was held December 9, 1913, at the office of the Commission in Madison. *F. W. Fellenz* appeared for the petitioner, and *J. M. Davis* for the respondent.

The arguments of the respondent have some merit. The petitioners admit that there is practically no movement of coal into Milwaukee from the inland towns and that only a very few returned shipments are handled, as, for example, the cars mentioned in the complaint.

It appears that in this case it costs the railroad but little, if any, more to bring the cars back to Milwaukee than it did to take them out in the first place, and the difference of 60 to 70 per cent seems hardly warranted. If the cars had been unloaded at Fond du Lac and Oshkosh as was originally intended, they would have been brought back to Milwaukee empty, since there is practically no movement of loaded gondolas from these points to Milwaukee. The fact that there is very little coal moving into Milwaukee is not sufficient reason, in our opinion, why an occasional shipment of coal should not be given a reasonable rate on the basis of the cost to the carrier of performing the service. It seems that traffic conditions being such that gondolas are normally returned empty to Milwaukee, the railroad should be glad to get such return shipments as may be had. The case is one in which it is necessary to investigate the absolute reasonableness of the rate on hard coal from Fond du Lac and Oshkosh to Milwaukee, rather than to attempt to determine the reasonable rate by a comparison with rates from Milwaukee to these points.

An analysis of the cost of coal movements over the road of the respondent for several years past has been made, taking into account the weight of coal per car, the weight of the average car in which coal ordinarily moves, the value of the commodity, and other factors. It appears that the going rate of 75 cts. per net ton to Fond du Lac and Oshkosh allows the carrier to pay all operating expenses, including taxes, and in addition leave something to pay a reasonable return on the investment necessary to carry on the business. The value of hard coal being greater than the value of soft coal, the carrier is entitled to earn somewhat more on shipments of hard coal due to greater risk. It will scarcely be suggested that the actual cost is greater, how-

ever. These facts were not lost sight of in determining what a fair return should be.

The relation of net weight to the total gross weight of the car is an important consideration. In general coal is loaded quite heavily. The four cars mentioned in the complaint were loaded somewhat lighter than is usual, but it so happens that the cars in which the coal moved were also lighter than the average and that the relation of tare weight to net weight was about normal for coal.

After consideration of all the facts and statements and after thorough investigation, it appears to us that the rate of $1.20 and $1.30 per net ton on the cars of coal mentioned in the complaint, and as shown in the table above, is unreasonable to the extent that it exceeds the going rate of 75 cts. per net ton, and that the petitioner is entitled to a refund based on the difference between the rate charged and the rate found reasonable. It also appears that the going rate on coal from Milwaukee to Fond du Lac and Oshkosh allows a reasonable return on the investment necessary to carry on the business.

IT IS THEREFORE ORDERED, That the respondent, the Chicago, Milwaukee & St. Paul Railway Company, be and the same is hereby authorized and directed to refund to the Pennsylvania Coal and Supply Company the sum of $50.42 and

IT IS FURTHER ORDERED, That the Chicago, Milwaukee & St. Paul Railway Company change its tariff on coal to read "between Milwaukee and" the cities of Fond du Lac and Oshkosh, instead of "from Milwaukee to" Fond du Lac and Oshkosh.

IN RE APPLICATION OF THE MARQUETTE AND ADAMS COUNTY TELEPHONE COMPANY FOR AUTHORITY TO INCREASE RATES.

Submitted June 26, 1914. Decided July 16, 1914.

Application was made by the Marquette & Adams County Tel. Co. for authority to increase its rate for telephone service. It seems that the present rate was put into effect about 9 years ago, and it appears from an inspection of the annual reports filed with the Commission that this rate does not bring in sufficient revenues to meet the operating expenses. In the light of the information available the suggested rate of $10 per year does not appear unreasonable. It also appears that the practice has been to leave the repairing of the lines to two directors on each line and that this is an uneconomical arrangement.

The applicant is authorized to discontinue its present charge of $6.50 per year for telephone service and to substitute therefor a rate of $10 per year.

It is recommended that the company employ an experienced lineman to keep the lines in good working order.

Application in the above entitled matter was filed June 3, 1914. It is stated in the application that the present rate of $6.50 per year for telephone service is too low, and that such an increase as will enable the company to meet operating expenses is desired.

Hearing was held June 26, 1914, at the office of the Commission in Madison. *J. W. Daniels,* manager of the applicant company, appeared in its behalf. No appearances were entered in opposition to the application.

From the testimony it appears that the rather low rate of $6.50 per annum was put into effect about nine years ago when twelve farmers got together and organized a small company. That this rate does not bring in sufficient revenues to meet operating expenses is shown by the annual reports filed with the Commission. For the year ending June 30, 1912, the total operating revenues, including the revenues from toll and switching service, were $2,877.20, while the operating expenses were $3,162.66, leaving a deficit of $285.46. For the year ending June 30, 1913, the operating revenues and expenses were respectively $2,600.05 and $3,795.04, leaving a deficit of $1,195.99.

The application contained a suggestion to the effect that stockholders in the telephone company be given a rate lower than that applied to nonstockholders. In that the law prohibits a utility from charging a different rate to stockholders than is charged to nonstockholders, it will be necessary to fix a rate which will be applicable to stockholders and nonstockholders alike. At the hearing the manager stated that a rate of $10 per annum would very likely be sufficient to meet the needs of the company. In the light of such information as we have at hand an annual rate of $10 does not appear unreasonable. The manager places the value of the company's plant at the present time, excluding subscribers' sets which are owned by the subscribers, at $8,000. The annual report of the company for the year ending June 30, 1913, shows a total cost of $6,614.42. It is not clear whether or not the difference between these figures is due to additional construction since June 30, 1913. Since it is apparent that a rate of $10 per annum applied to 417 subscribers (the number which the company states it has at present) will, after making adequate provision for depreciation, allow only a fair return upon the lower valuation, it does not appear necessary to carefully check the estimate of the value of the plant at the present time.

The testimony indicates that the present practice of leaving the repairing of the lines to two directors on each line is uneconomical. It was suggested at the hearing that an experienced man be employed for the purpose of attending to the repairing of all the lines. The employment of an experienced lineman would very likely prove more satisfactory than the present practice in respect to both service and the cost of repairing. We therefore recommend that the company employ an experienced lineman to keep the lines in good working order.

IT IS THEREFORE ORDERED, That the applicant, the Marquette and Adams County Telephone Company, be and the same hereby is authorized to discontinue its present charge of $6.50 per year for telephone service and substitute therefor a rate of $10 per year.

JOHNSON AND HILL COMPANY
vs.
MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY.

Decided July 18, 1914.

Complaint was made of excess charge on three carloads of fuel wood shipped from Dean's Spur, Wis., to Arpin, Wis. It appears that the charges were assessed at the rate of 2¾ cts. per cwt., that a rate of 2 cts. per cwt. was in effect at that time on the Chicago & North Western Railway from Arpin and other stations in the vicinity, and that subsequent to the shipments in question the respondent established a rate of 2 cts. per cwt. on fuel wood from Grand Rapids, Wis., to Arpin. Petitioner asks refund on the basis of the latter rate.

Held: A rate of 2 cts. per cwt. on fuel wood moving from Arpin to Grand Rapids is ample compensation for the services rendered. Refund ordered on that basis.

The petitioner, a corporation engaged in the purchasing and selling of fuel wood at Grand Rapids, Wis., alleges that on and between December 17, 1913, and March 23, 1914, it shipped three carloads of fuel wood from Deans Spur, Wis., to Arpin, Wis., upon which the respondent assessed charges at the rate of 2¾ cts. per cwt.; that such rate is unreasonable to the extent that the same exceeds 2 cts. per cwt., which latter rate was in effect on the Chicago & North Western Railway from Arpin and other stations in the vicinity; that the respondent railway company, subsequent to the movement of the shipments in question, issued its supplement No. 12 to its tariff G. F. D. No. 14225, establishing a rate of 2 cts. per cwt. on fuel wood from Grand Rapids to Arpin. Wherefore petitioner prays that the respondent may be authorized to refund to it the excess charge.

The respondent railway company admits the allegations of the petition and joins in the prayer thereof.

Notice of investigation and hearing was waived. The claim was submitted upon the pleadings, papers, documents and tariffs on file.

The respondent necessarily was obliged to conform its rate to that in effect on the line of its competing company or cease to participate in the traffic.

Taking into consideration all the elements involved in the transportation services rendered, we are satisfied that a rate of 2 cts. per cwt. on fuel wood moving from Arpin to Grand Rapids is ample compensation for the services rendered.

The total weight of the three cars of wood amounted to 165,700 lb., consequently the reparation that will be awarded is $12.43.

NOW, THEREFORE, IT IS ORDERED, That the Minneapolis, St. Paul & Sault Ste. Marie Railway Company be and the same is hereby authorized and directed to refund to the petitioner, the Johnson & Hill Company, the aforesaid sum of $12.43.

A. S. PIERCE
vs.
MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY,
STANLEY, MERRILL AND PHILLIPS RAILWAY COMPANY.

Decided July 18, 1914.

Complaint was made of excessive charges on six carloads of lumber shipped from Cotton, Wis., to Rhinelander, Wis., for concentration and reshipment. It appears that the rate upon the basis of which the shipments in question were made had been in effect, but remained in effect only through error at the time it was quoted to petitioner, and that an additional sum, on the basis of a higher rate, was collected by the connecting carrier, the respondent M. St. P. & S. S. M. R. Co. Subsequently the original rate quoted to petitioner was reëstablished, and petitioner asks refund on that basis.

Held: The rate charged petitioner was excessive. A reasonable charge would have been 4½ cts. per cwt., the rate originally charged petitioner and since then put into effect by respondent M. St. P. & S. S. M. R. Co. Refund ordered on that basis.

The petitioner is engaged in the wholesale lumber business at Rhinelander, Wis. He alleges that between July 1, 1911, and September 1, 1912, he forwarded from Cotton, Wis., to Rhinelander, Wis., six carloads of lumber for concentration and reshipment; that the initial carrier, the Stanley, Merrill & Phillips Railway Company, billed the shipment at the rate of 4½ cts. per cwt. according to its tariff G. F. D. No. 479, issued and taking effect May 6, 1910, by order of the Commission, and that charges were paid on that basis; that the respondent, the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, referred to this tariff as its G. F. D. No. 11720; that, owing to an error on the part of the respondent, the Stanley, Merrill & Phillips Railway Company, in issuing its tariff G. F. D. No. 591, canceling No. 558 and eliminating the 4½ ct. rate from Cotton to Rhinelander, without leaving any rate in effect except the full tariff rate of 10 cts. per cwt., the delivering carrier, the respondent Minneapolis, St. Paul & Sault Ste. Marie Railway Company, charged the full tariff rate and the petitioner was obliged to pay the addi-

tional sum of $137.76; that after the shipments moved and the attention of the respondent, the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, was called to the error, the rate of 4½ cts. on lumber for concentration and reshipment was established by issuing tariff G. F. D. No. 14021; and that petitioner is thereby injured to the extent of $137.76, the amount collected over the rate of 4½ cts. per cwt. on the shipments in question. Wherefore petitioner asks that the respondent be required to make refund to it in that sum.

No hearing was held as notice and hearing was waived by the respondent. The case was submitted upon the papers, vouchers and documents on file.

In all six carloads of lumber were delivered by the petitioner during the period from July, 1911, to September 1, 1912, to the Stanley, Merrill & Phillips Railway Company at Cotton, Wis., for carriage to Rhinelander for concentration and reshipment. The Stanley, Merrill & Phillips Railway Company billed the shipment at the rate of 4½ cts. per cwt. in accordance with its G. F. D. No. 479, effective May 6, 1910. At this time the connecting carrier, the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, published the same rate in its G. F. D. No. 11720. Later the Stanley, Merrill & Phillips Railway Company canceled its G. F. D. No. 479 by issuing G. F. D. No. 558, but continued the same rate on lumber for concentration between Cotton and Rhinelander. To correct this it issued G. F. D. No. 591, effective May 1, 1911, canceling No. 558, eliminating the rate of 4½ cts. per cwt. but naming no new rate and therefore the tariff rate of 10 cts. per cwt. applied. When the Minneapolis, St. Paul & Sault Ste. Marie Railway Company issued its new tariff No. 12709 through an error it failed to state that it was in cancellation of G. F. D. No. 11720.

At the time petitioner was about to make this shipment, the Stanley, Merrill & Phillips Railway Company quoted him a rate of 4½ cts. per cwt., the rate named in its G. F. D. No. 479, which tariff remained in effect through error. The shipment was billed on this basis and charges paid by the petitioner. At the destination of the shipment the Minneapolis, St. Paul & Sault Ste. Marie Railway Company collected an additional 5½ cts. per cwt., under the belief that the tariff rate should have been applied to the shipment as shown by its G. F. D. No. 12400. The amount

collected in this instance was $137.76 which petitioner asks be refunded to him.

After the shipments moved petitioner called attention to the error and a new tariff, G. F. D. No. 14021, effective September ber 22, 1911, was issued reinstating the rate of 4½ cts. per cwt. The respondent, the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, acknowledges its error and is willing to refund the excessive charges upon authority from the Commission. Under the circumstances reparation will be awarded as requested. *Johns-Manville Co. v. C. M. & St. P. R. Co.* 1909, 4 W. R. C. R. 114; *Ideal Lumber & Coal Co. v. C. M. & St. P. R. Co.* 1909, 4. W. R. C. R. 171; *Gund Brewing Co. v. C. & N. W. R. Co.* 1909, 4 W. R. C. R. 190; *Ewer v. C. St. P. M. & O. R. Co.* 1909, 4 W. R. C. R. 331; *Pabst Brewing Co. v. C. & N. W. R. Co.* 1910, 4 W. R. C. R. 403; *Kaiser Lumber Co. v. C. St. P. M. & O. R. Co.* 1910, 5 W. R. C. R. 196.

We therefore find and determine that the rate of 10 cts. per cwt. charged the petitioner for the above shipments of lumber from Cotton to Rhinelander for concentration and reshipment was excessive and unreasonable and do further find that a reasonable charge under the circumstances would have been 4½ cts. per cwt. or the rate originally charged the petitioner and which is the rate subsequently made effective by respondent, the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, in its G. F. D. No. 14021.

NOW, THEREFORE, IT IS ORDERED, That the respondents be and the same are hereby authorized to refund to the petitioner the sum of $137.76.

IN RE PROPOSED EXTENSION OF THE LINE OF THE RANDOM LAKE TELEPHONE COMPANY IN THE TOWN OF SHERMAN, SHEBOYGAN COUNTY, WISCONSIN.

Submitted July 16, 1914. Decided July 20, 1914.

The Random Lake Tel. Co. filed notice with the Commission of its intention to extend its line parallel to the line of the East Valley Tel. Co. from a point some two miles southwest of Adell, Wis., toward the village of Adell. It appeared that a physical connection between the two companies was feasible, that in fact a line was being built for that purpose, and that, when completed, the desired service could thereby be afforded to the parties who were involved in the present case and wished the proposed extension.

Held: The extension of the line in question in the manner proposed is not required by public convenience and necessity. Since a physical connection would furnish an adequate, feasible remedy, the building of the extension would result in the sort of unnecessary duplication which the law seeks to avoid.

This case involves a proposed extension of the Random Lake Telephone Company's line parallel to the line of the East Valley Telephone Company from a point some two miles southwest of Adell, Wis., toward the village of Adell. This line would have as its patrons several persons residing along a highway on which the East Valley line is now located.

Objection to the construction of this extension was made by the East Valley Telephone Company.

A hearing in the matter was held at Waldo, Wis., on July 13 and 16, 1914. The Random Lake Telephone Company was represented by *Emil C. Thiel,* and the East Valley Telephone Company by *P. G. Van Blarcom* and *August G. Bartelt.*

The purpose for which the proposed telephone line would be used would be to give service into Adell to certain persons living within a mile or two of that village. The Random Lake Telephone Company has a line running into Adell from another direction, and does most of the local telephone business of that village through its exchange. Thus, the proposed subscribers would be able to reach Adell through the exchange at Random Lake. The East Valley line which runs past their residences also

runs into Adell, but has no exchange there and only reaches three business places in the village. The inability of persons living near Adell on the East Valley line to reach more than these three business places has resulted in their desire to have the Random Lake service.

This is a case where a physical connection is very clearly an adequate and feasible remedy for the difficulty in which the residents to the southwest of Adell find themselves. To permit the paralleling of the East Valley line for some distance toward Adell would result in the sort of unnecessary duplication which the law seeks to avoid. It seems that there is at present a physical connection between the two companies at a point called Silver Creek, but that the service through this connection is irregular, owing to the intermittent character of the attendance at the switch. To avoid this difficulty, a line is now being built between the two companies which will result in a physical connection between switchboards continuously attended by operators, and when this line is ready for service there should be no trouble in exchanging service between the two companies. If the construction of this line does not proceed as rapidly as it should, or if the charge made for conversation through the physical connection seems to anyone to be unreasonable, these matters can be taken up with the Commission for adjustment.

For the reasons stated, we find and determine that public convenience and necessity do not require the extension of the line of the Random Lake Telephone Company in the town of Sherman, Sheboygan county, in the manner proposed by that company in its notice filed with the Commission June 30, 1914.

OSCEOLA MILL AND ELEVATOR COMPANY

vs.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY.

Decided July 21, 1914.

Complaint was made of excessive charges on a car of hay shipped from Osceola to Rhinelander, Wis., and refund asked. It appeared that the rate would have been 10 cts. per cwt. had it not been for the omission of the intermediate clause from the tariff in question through an oversight, which was corrected when attention was called to it.

Held: The charge of 12½ cts. per cwt. exacted of petitioner on the shipment of hay from Osceola to Rhinelander was excessive. A reasonable rate would have been 10 cts. per cwt. Refund ordered on that basis.

The petitioner complains that on May 29, 1913, it shipped a car of hay containing 29,290 lb. over respondent's line from Osceola to Rhinelander, upon which respondent assessed charges at the rate of 12½ cts. per cwt.; that such rate is unusual and excessive to the extent that the same exceeds the rate on similar shipments from Bald Eagle, Minn., to Rhinelander, Wis., Osceola being intermediate with Bald Eagle on the direct line; that the shipment was originally billed at the rate of 10 cts. per cwt., but was subsequently corrected by respondent because of the absence of the intermediate clause in the tariff; that since said shipment moved, the respondent has corrected its tariff so that intermediate points take the through rate; that the excess charge on said carload of hay is $5.71. Wherefore petitioner prays that respondent be authorized to refund to it the said sum of $5.71.

The respondent railway company, answering the petition, admits the allegations thereof and waives notice of the investigation and hearing.

The omission of the intermediate clause from the tariff in question was doubtless due to an oversight and was corrected upon attention being called to the same.

We therefore find and determine that the charge of 12½ cts. per cwt., exacted of the petitioner on the aforesaid shipment of

hay from Osceola to Rhinelander, was unusual and excessive and that the reasonable rate that should have been exacted and applicable to such shipment is 10 cts. per cwt.

The excess charge on said shipment, on account of error in computation of original bill, is $5.71 as alleged in the petition.

NOW, THEREFORE, IT IS ORDERED, That the Minneapolis, St. Paul & Sault Ste. Marie Railway Company be and the same is hereby authorized and directed to refund to the Osceola Mill and Elevator Company the sum of $5.71.

CREAMERY PACKAGE MANUFACTURING COMPANY

vs.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY,

CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY COMPANY.

Decided July 21, 1914.

Complaint was made of excessive charges on a shipment of wooden cheese boxes from Butternut, Wis., to Glover, Wis., and refund asked. It appeared that subsequently the respondent, the M. St. P. & S. S. M. Ry. Co., voluntarily established a considerably lower rate than that charged petitioner, and that at the time of the shipment it had in effect a substantially lower rate applicable to a substantially similar distance and traffic situation as those in question.

Held: The rate of 24½ cts. per cwt. exacted of the petitioner for shipment of cheese boxes from Butternut to Glover was exorbitant. A reasonable charge would have been the rate subsequently established or 18½ cents per cwt. Refund ordered on that basis.

The petitioner is engaged in the manufacture of cheese boxes at Butternut, Wis. It alleges that on January 8, 1914, it shipped one car of wooden cheese boxes from Butternut, Wis., to Glover, Wis., upon which the freight assessed was $49, based upon a rate of 24½ cts. per cwt., which rate was made up as follows: 12½ cts. per cwt. from Butternut to Eau Claire and 12 cts. per cwt. from Eau Claire to Glover; that at the time said shipment moved, the Minneapolis, St. Paul & Sault Ste. Marie Railway Company had in effect a rate of 17 cts. per cwt. from Butternut to Burkhardt, Boardman and other points in that vicinity as per its tariff G. F. D. No. 16639; that the respondent, the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, published its tariff G. F. D. No. 18168, effective May 13, 1914, establishing a rate of 18½ cts from Butternut to Burkhardt and River Falls and intermediate points; that the said rate of 24½ cts. per cwt. is excessive and unusual insofar as the same exceeds the said rate of 18½ cts. voluntarily established by the carrier in its tariff No. 18168. Wherefore petitioner prays that the respondents be authorized and directed to refund to it the said excessive charge.

The respondents, answering the petition, admit the allegations thereof and express their willingness to make the refund upon the basis contended for by petitioner.

The case was submitted upon the papers, vouchers and documents on file.

As the distance from Butternut to Burkhardt is but little less than the distance from Butternut to Glover, and there is nothing in the traffic situation that warrants a difference in rates applicable to shipments of cheese boxes from Butternut to Burkhardt and from Butternut to Glover, the rate of 24½ cts. exacted of the petitioner can not be justified. Furthermore, the investigation discloses that the rate of 18½ cts. per cwt. is adequate compensation for the services rendered in the instant case.

We therefore find and determine that the rate of 24½ cts. per cwt. exacted of the petitioner on the aforesaid shipment of cheese boxes in unusual and exorbitant, and that the reasonable charge for such services is the rate of 18½ cts. per cwt.

The weight of the shipment was 14,000 lb. The minimum weight requirement for the car used is 19,500 lb. The amount of reparation that will be awarded is therefore $12.92.

NOW, THEREFORE, IT IS ORDERED, That the respondents, the Minneapolis, St. Paul & Sault Ste. Marie Railway Company and the Chicago, St. Paul, Minneapolis & Omaha Railway Company, be and the same are hereby authorized and directed to refund to the petitioner the said sum of $12.92.

FRANK J. ALBRIGHT ET AL.

vs.

CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY COMPANY.

Submitted May 21, 1914. Decided July 21, 1914.

Application was made for an extension of free storage time, during certain periods of the year, on petitioners' shipments of freight received at Bayfield, Wis., over respondent's line. It appears that the petitioners are residents of La Pointe, a town on Madeline Island, about three and one-half miles from the mainland at Bayfield, that during certain periods of the year both the mail service and the carrying of freight across the channel are subject to more or less regular interruption, and that for more than half the year mail service is scheduled for three days per week only.

Held: The conditions in the present case warrant an exception to the general rule. However, as there is evidence before the Commission of like conditions at other points, and as uniformity in charges is desirable where conditions are alike, a recommendation rather than an order will be made. If not adopted, an investigation, on motion of the Commission, making parties all carriers in the state who are members of the Wisconsin Demurrage Bureau, will follow.

It is recommended that all lines in Wisconsin who are members of the Wisconsin Demurrage Bureau put into effect the rule proposed, or one of similar import, through which, under the conditions stated, additional free time allowance will be made for delay due to infrequent mail service or prohibitive conditions brought about by the weather.

The petitioners, who reside at La Pointe, a town on Madeline Island which is three and one-half miles from the mainland at Bayfield, ask for an extension of free storage time on their shipments of freight received at Bayfield over respondent's line during certain periods of the year when by reason of (1) infrequency of and interruptions in the mail service notices of the arrival of freight at Bayfield are not received at La Pointe in time for the consignee to remove the freight during the free storage period, and (2) conditions brought about principally by the weather which render the channel between La Pointe and the mainland practically impassable for the carrying of freight except at unusual expense and risk.

The matter came on for hearing at Bayfield on May 21, 1914. The petitioners were represented by *J. J. Fisher,* their attorney, and the respondent by *John D. Mahon.*

It appears from the testimony that during the period in which the channel between La Pointe and Bayfield is open for the carrying of freight by boat, a period of about three to four months, there is regular mail service twice daily with very little interruption between Bayfield and La Pointe. During this period there is ordinarily nothing to prevent consignees from removing the freight from the station at Bayfield within the free storage period. The rest of the year mail service is scheduled for three days per week only and is subject to many interruptions because of the condition of the channel. Furthermore, during the latter period there is more or less regular interruption to the carrying of freight across the channel, varying from about three to six weeks, when the channel is freezing over in the fall, and again when the ice is breaking in the spring.

Prior to January 10, 1914, no charge was made for the storage of freight pending delivery or shipment at Bayfield and there was no charge for such accommodation in force generally in the state. On the day mentioned a storage charge of 5 cts. per ton or fractional part thereof per day, except Sundays, legal holidays, and twenty-four hours from 7:00 a. m. after notice of receipt of freight is mailed to consignee, became effective generally in the state. This charge was approved by the Commission pursuant to sec. 1797—4 of the statute. At the time such approval was under consideration we very much doubted the reasonableness of an arbitrary storage charge as proposed, because of the injustice that might result in certain situations, such as is presented in the instant case. However, the necessity of some storage charge was recognized, but the facts necessary to determine the reasonableness of exempting certain shipments from such charges were not available at the time. The approval was therefore granted with the understanding that if investigation showed conditions that warranted exemptions the Commission would provide therefor later.

The conditions shown to exist in the instant case seem to warrant an exception to the general rule. There is similar evidence before the Commission tending to show that like conditions exist at other points. Inasmuch as it is desirable to have uniformity in charges where conditions are alike, no order will be issued at

present but instead a recommendation will be made with the expectation that it will be followed. Otherwise an investigation on the motion of the Commission will follow, making all carriers within the state parties who are members of the Wisconsin Demurrage Bureau.

IT IS THEREFORE RECOMMENDED, That the respondent railway company and all other lines operating in Wisconsin that are members of the Wisconsin Demurrage Bureau immediately publish and make effective, in connection with storage rules, the following rule or a rule of similar import:

"When, through the infrequency of mail delivery at the point where mailed notices of the arrival of freight are received by consignees, such notices are not received in time so that freight may be removed from the station within the period in which no storage is charged, and when, by reason of conditions brought about by the weather, consignees living at a distance of one mile or more from the railroad station are prevented from removing freight held at such station for delivery to them, additional free time, equal to the delay due to the infrequency of the mail service or to the conditions brought about by the weather, as the case may be, will be allowed."

IN RE MICHAEL T. GEHL AND OTHERS FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY FOR THE CONSTRUCTION OF A TELEPHONE LINE IN THE TOWN OF ADDISON, WASHINGTON COUNTY, WISCONSIN.

Submitted June 22, 1914. Decided July 21, 1914.

Application was made for authority, through a certificate of public convenience and necessity, to construct in the town of Addison, Washington county, a telephone line to connect the residences of the various applicants, with a line of the Hartford Rural Tel. Co. The Allenton-Kohlsville Tel. Co. opposed the construction of the new line on the ground that it would compete directly with that company's line on the same highway and would actually deprive that line of subscribers. It appeared that the proposed line would be a little over two miles in length and would run for most of its distance parallel with the Allenton-Kohlsville line on the same highway; that Hartford and Allenton are centers of population quite distinct from one another; that the highway on which the applicants reside happens to be in the nature of a boundary line between the rural community tributary to Hartford and that tributary to Allenton; that some of the residents along this highway desire connection toward Hartford, while others prefer service toward Allenton; that the circumstances are such that a physical connection between the Hartford Rural Tel. Co. and the Allenton Kohlsville Tel. Co. would be impracticable, and that the construction of the proposed line would not result in great loss to the Allenton-Kohlsville Tel. Co.

Held: The construction, in the manner proposed by the applicants, of the line in question for telephone service, is required by public convenience and necessity. Where border territories are involved, it occasionally happens, as in the present case, that the public needs can only be satisfied by permitting a certain amount of overlapping. When such is the case, the convenience and necessity of the public itself in the matter of telephone service is the paramount consideration and the doctrine of protection for existing interests can not be carried to its full length. Ordinarily the appropriate remedy is a physical connection, the general policy of the law being usually against duplication of lines which will impair investments, and the action taken by the Commission in the present case is not to be looked upon as a precedent until a situation develops, which is similar in all respects to the present one.

The applicant, Michael T. Gehl, and six others, residing along a highway running east and west in the town of Addison, Dodge county, Wis., propose to construct a telephone line to connect their various residences with a line of the Hartford Rural Tele-

phone Company which crosses at right angles the highway on which the proposed line is to be located. The Hartford Rural Telephone Company is willing to connect with the proposed line and give its members service, but objection is made by the Allenton-Kohlsville Telephone Company, a public utility operating a line for local service along the same highway on which the new line would be built.

A hearing was held in the matter at Hartford on June 22, 1914, at which the applicants were represented by *Michael T. Gehl,* the Allenton-Kohlsville Telephone Company by *M. H. Schmitt,* and the Hartford Rural Telephone Company by *A. W. Brown.*

The proposed line would be a little over two miles in length and would run for most of its distance parallel with the Allenton-Kohlsville line on the same highway. The latter line now serves a few of the applicants who proposed to discontinue the Allenton-Kohlsville service upon becoming connected with the Hartford rural line. The remainder of applicants now have no service, although the Allenton-Kohlsville line runs past the residences of most of them. The testimony of the applicants was to the effect that their business and social interests lie southward in the direction of Hartford, while the only connection they could get by using the Allenton-Kohlsville service was with the village of Allenton, several miles to the north, and with other places still further north. Connection between Allenton and Hartford may be had by the use of the Wisconsin Telephone Company's toll line, but this necessitates the payment of a 15 ct. toll per message. The objection of the Allenton-Kohlsville Telephone Company to the construction of the new line was on the ground that it would compete directly with that company's line on the same highway and would actually deprive that line of subscribers. The Allenton-Kohlsville Telephone Company presented at the hearing a statement signed by two of the applicants in the case to the effect that they had been under a misapprehension when they signed the application and that they actually desired the Allenton-Kohlsville service. Two other persons, not signers of the petition, also signed the Allenton-Kohlsville Telephone Company's petition, and expressed themselves as being satisfied with that company's service.

The situation with regard to the physical location of the lines of the Hartford Rural and Allenton-Kohlsville telephone com-

panies seems to be such that a physical connection between them would be impracticable. The two companies do not enter any community where the establishment of a switch would be possible, and, in fact, at the present time there is no point of contact whatever between them, since the Allenton line terminates half a mile short of the north and south road on which the Hartford line is built. To attach the loaded line of the Hartford company to the loaded line of the Allenton company by merely tying one to the other without a switch would of course result in the establishment of a single line greatly overloaded. The only possible means of physical connection between the companies would be a new line constructed between Allenton and Hartford and carrying no subscribers. Such a line would necessarily be something over ten miles in length and if such line were to be constructed it would have to be used rather as a toll line than merely as a means of physical connection, since neither company could presumably afford to erect and maintain so long a line for free interchange of messages. The evidence indicates that Hartford and Allenton are centers of population quite distinct from one another. One is located on the Chicago, Milwaukee & St. Paul line, and the other on the "Soo" line, and railroad connection is not direct. The testimony seems to indicate that a person in the region involved in this case having business and social interests in Hartford would not be likely to have any in Allenton, and vice versa. The testimony also tends to show that the east and west highway on which the proposed line would be constructed is about the boundary line between the rural community tributary to Allenton and that tributary to Hartford; in fact, four of the residents along this highway are interested in the present application and desire to have connection toward Hartford, while at least as many more of the residents along the highway have expressed their preference for service toward Allenton.

In border territories like that involved in this case, there is sometimes presented a situation where some overlapping of telephone lines is required in order that public convenience and necessity with regard to telephone service may be fully satisfied. While such overlapping may at times do some injury to one of the companies and the general policy of the law is usually against the duplication of lines which will impair investments, still it is also true that the convenience and necessity of the public it

self in the matter of telephone service is the paramount consideration, and where the public needs can only be satisfied by permitting a certain amount of overlapping, the doctrine of protection for existing interests can not be carried to its full length.

Ordinarily, in a situation of this kind, the remedy sanctioned by the policy of the law is that of a physical connection. Clearly, if a connection between the Allenton and Hartford lines could be established under such circumstances that a subscriber of one company could converse with a subscriber of the other, at a very small cost for transfer of messages and without any appreciable cost for long distance transmission, there would be no public necessity for the construction of the new line. This Commission has had occasion in the past to point out to persons or companies desiring to extend lines in duplication of other lines, that the public convenience and necessity will be best satisfied by a physical connection and no duplication of lines is needed. The situation here appears to be different, however. The highway in question is the south boundary of one line and the northern or northeastern boundary of the other. The lines reach no common point and a physical connection as distinguished from the establishment of a long distance toll service between the companies seems to be practically impossible. Under these circumstances, it may well be that the needs of the public can be best satisfied by permitting the construction of the line proposed by the applicant.

It is not often that a situation involving just the particular elements that are present in this case is brought before the Commission, and until another situation develops which is similar in all respects the action taken in this case should not be looked upon as a precedent. Usually, there is either the possibility of physical connection, or the territory involved in the case is quite clearly within the field of one company or the other. There is usually, of course, no public convenience and necessity which will require a telephone company to extend into territory clearly outside of its proper field merely because someone in the territory wants to reach persons served by the company in question. But here the highway involved in the case seems to be actually the boundary between the two communities, as nearly as such boundary can be ascertained.

Another matter to be considered in this case is that the construction of the proposed line will not result in great loss to the

Allenton-Kohlsville Telephone Company. About two subscribers will be lost to it, but several will remain on its line on the highway in question, and the actual diminution of the company's revenue will not be great enough to be material. This, of course, does not mean that duplication of lines is to be permitted merely because it has only a small effect on the revenues of the other company; but, taken in connection with the circumstances of this case, the fact that the loss to the Allenton-Kohlsville Telephone Company will not be serious is worthy of consideration.

We believe the facts disclosed in this case warrant the finding that public convenience and necessity require the construction of the line proposed by the applicant, and a declaration to that effect will therefore be made.

We find and determine that public convenience and necessity require the construction of the line for telephone service in the town of Addison, Washington county, Wis., in the manner proposed by the applicants, Michael T. Gehl and others, and designated in the diagram attached to the application herein.

BLODGETT MILLING COMPANY
vs.
CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Decided July 27, 1914.

Complaint was made of excessive charges on a carload of buckwheat shipped over respondent's line from Trempealeau to Janesville, Wis. It appeared that at the time the shipment in question moved the rate on buckwheat, with milling in transit privilege at Janesville, from Trempealeau to Chicago and points intermediate between Janesville and Chicago on respondent's line, including Sharon, Wis., was 12½ cts. per cwt.; that the rate from Trempealeau to Milwaukee was 11 cts. per cwt.; that the shipment in question prior to the movement of the product out of Janesville was entitled to either rate, according to the destination of the products; that part of the buckwheat was reshipped to Sharon, Wis.; that the rest of the buckwheat was held at Janesville and that consequently the entire transit credit was not used; that the rate from Trempealeau to Janesville, in effect at the time and charged the shipment involved, was 12½ cts. per cwt., and that some time subsequent to the shipment that rate was changed to 11 cts., the present rate. Refund on the basis of a 11 ct. rate is asked on that part of the buckwheat held at Janesville.

Held: Where a shipment of grain is entitled to transit privileges and where the shipment is separated at the transit point into two or more shipments, each destined to points taking different rates from point of origin to point of final destination, the application of different rates to the shipment involved is not authorized in the present tariffs. Petition dismissed.

The petitioner alleges that on November 5, 1912, one carload of buckwheat, containing 55,450 lb., was shipped from Trempealeau over the respondent's line to the petitioner at Janesville; that the respondent collected freight charges on said shipment at a rate of 12½ cts. per cwt. amounting to $69.31; that said shipment was subject to the milling in transit privilege; that a portion of the buckwheat, namely 35,210 lb., was a local movement between Trempealeau and Janesville; that at the time the shipment moved there was a rate in effect on buckwheat from Trempealeau to Milwaukee of 11 cts. per cwt.; that at the same time respondent's transit tariff No. 14000–80 permitted the milling of buckwheat at Janesville, moving from Trempealeau for

delivery at Milwaukee at the through rate in effect from Trempealeau to Milwaukee, which was 11 cts.; that said tariff provided that where grain was stopped to be milled in transit, the local rate from point of origin to a milling station should be changed at the time the grain was received at the milling station, and that when the product was forwarded to destination, it should take the through rate from point of origin to destination; that if the rate to milling point was less than a through rate, the difference between the rate to the milling point and the through rate should be paid at the time the shipment was forwarded to destination; that the converse would hold, to wit, that where the rate to milling station exceeded the through rate from point of origin to destination, the difference between the rate to milling station and the through rate should be refunded to shipper at the time the transit movement was completed; that the respondent recognized the fact that the local rate to the milling station should not exceed the transit rate to the point of destination in its supplement No. 42 to its tariff G. F. D. No. 8300–A, effective June 16, 1913, which provides:

"The rates authorized between Milwaukee, Wisconsin, and stations in Wisconsin north and west of Madison, Index Nos. 233–271, 289–316 inclusive, will also apply between Beloit, Janesville, Wisconsin, and stations Index Nos 233–271, 289–316 inclusive."

That as after June 16, 1913, the rate on buckwheat from Trempealeau to Janesville in carlots was 11 cts. per cwt.; and that as, at the time the car complained of moved, the rate would have been 11 cts. if the product had been forwarded from Janesville to Milwaukee after being milled, the petitioner requests that the respondent be ordered to refund to it the sum of $5.28, being the difference between freight charges collected on 35,210 lb. at 12½ cts., and freight charges that would have been collected on 35,210 lb. at 11 cts.

The respondent railway company, answering the petition, admits that the shipment moved and the charges were collected as alleged, but denies the conclusion of the petition that where the rate to milling station exceeds the through rate from points of origin to transit destination, the difference between the rate to milling station and the through rate be refunded to shipper at the time the transit movement was completed. It also denies all the material allegations of the petition.

The matter came on for hearing on May 12, 1914, and was submitted upon the pleadings, correspondence, schedules and papers on file.

From an examination of the record and the tariffs on file with the Commission, it appears, as alleged in the petition, that a shipment of buckwheat on November 5, 1912, from Trempealeau to Janesville, consigned to the petitioner and weighing 55,450 lb., was charged at the rate of 12½ cts. per cwt., amounting to $69.31. This charge was in accordance with the published legal rate in force at the time of shipment and that the shipment was taken into account under milling in transit arrangement, which included the privilege of shipment to the product from Janesville to Chicago, Ill., and points intermediate between Janesville and Chicago on respondent's line, including Sharon, Wis., to which the through rate on the grain from point of shipment was 12½ cts. per cwt.

At the time the shipment in question moved the rate on buckwheat, including milling in transit privilege at Janesville, from Trempealeau to Chicago, was 12½ cts. per cwt., and from Trempealeau to Milwaukee 11 cts. per cwt., and the shipment, prior to the movement of the product out of Janesville, was entitled to either rate according to the destination of the product. Part of the transit credit on this shipment was applied in connection with a shipment to Sharon, a 12½ ct. rate point, and the balance, 35,210 lb., was not used, and, therefore, was canceled. The rate on buckwheat moving from Trempealeau to Janesville was 12½ cts. per cwt., although at the same time the rate from Trempealeau to Milwaukee, with privilege of milling in transit at Janesville, was 11 cts., as already stated. Effective June 6, 1913, the rate from Trempealeau to Janesville was changed to 11 cts., which is the present rate. The petitioner asks reparation in the sum of $5.28, on the basis of such 11 ct. rate, on the 35,210 lb. of buckwheat held at Janesville.

From the facts thus found it would seem that the rate of 12½ cts. from Trempealeau to Janesville, as compared with the rate of 11 cts. from Trempealeau to Milwaukee, with transit privilege at Janesville, was somewhat excessive and the changing of the same later to 11 cts. indicates that the difference in these rates was an oversight rather than intentional. This condition does not now exist, for at present the rate from Trempealeau to Janesville is the same as the rate from Trempealeau to Milwaukee,

with transit privilege at Janesville. Apparently the prayer for reparation is based on present conditions and consequently an authorization of the refund asked should involve no change in conditions now existing. A careful examination of tariffs now in effect, however, fails to show any provision for the division of shipments of grain entitled to transit privileges that would authorize the application of different rates to a shipment separated at the transit point into two or more shipments, each of which is destined to points taking different rates from point of origin to point of final destination. The shipment in question, it appears, was so separated, one part going to a 12½ ct. rate point, Sharon, and the balance going to a point that is now and perhaps at the time of shipment was entitled to be an 11 ct. rate point, Janesville. The present conditions do not, therefore, furnish grounds upon which to authorize the reparation demanded, and as these conditions are not attacked as unreasonable, it follows that the petition must be dismissed.

NOW, THEREFORE, IT IS ORDERED, That the petition herein be and the same is hereby dismissed.

C. D. SIEBERNS,
R. R. HOWISON
vs.
CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY COMPANY.

Submitted Feb. 20, 1914. Decided July 28, 1914.

Complaint was made of inadequate passenger train service between Spring Valley and Woodville, Wis. It seems that two mixed trains, formerly affording passenger service between Spring Valley and Woodville, were taken off for a time and subsequently continued as freight trains carrying no passengers. The Commission is requested to order the respondent to restore the passenger service formerly afforded by these trains. It appeared that the discontinuance of the service in question necessitated a four hour wait at Woodville for Spring Valley people desiring to make a round trip to Eau Claire on the same day, resulted in the loss of the afternoon for business men desiring to transact business the following morning in St. Paul, and allowed persons coming to the village for business and departing the same day only four and one-half hours, including the noon hour, instead of eight hours in the village as formerly.

Held: While the addition of other passenger trains would not be justified, it is manifestly unreasonable, where the use of existing facilities will materially improve the service without any increase in operating expenses, to refuse to accord such service to the public. The respondent is ordered to restore the passenger service formerly rendered by it between Spring Valley and Woodville by allowing passengers to ride on its freight trains No. 34 and No. 35.

The petition alleges in substance that the Chicago, St. Paul, Minneapolis & Omaha Railway Company operated for several years a mixed freight and passenger train between Woodville and Spring Valley, leaving Woodville at about 4:00 p. m., arriving at Spring Valley about 4:30 p. m., and leaving again for Woodville at 6:30 p. m.; that this train was discontinued about June 15, 1913; and that the present train service is inadequate. The Commission is therefore asked to require the respondent to restore the train in question.

The respondent, in its answer, alleges that it now operates two passenger trains in each direction daily on this line, and that this service is entirely adequate and equal to the service of any of its branch lines.

A hearing was held at Woodville on February 20, 1914. *C. D. Sieberns* and *R. R. Howison* appeared in their own behalf, and *R. L. Kennedy* represented the respondent.

The train service now accorded Spring Valley is as follows:

Southbound

No. 31 leaves Woodville 9:30 a. m., arrives Spring Valley 10:20 a. m.
No. 33 " " 7:25 p. m., " " " 7:50 p. m.

Northbound

No. 30 leaves Spring Valley 7:08 a. m., arrives Woodville 7:30 a. m.
No. 32 " " " 3:00 p. m., " " 3:30 p. m.

Witnesses testified that with this schedule a trip to Eau Claire or other points east of Woodville on the main line is inconvenient. An examination of the company's folder shows that by taking the morning train at Spring Valley at 7:08 a. m., and waiting practically two hours at Woodville, one can reach Eau Claire at 10:50 a. m. Returning he must leave Eau Claire at 2:20 p. m. and wait at Woodville about four hours in order to make the round trip on the same day. Thus about thirteen hours are consumed in traveling forty-seven miles and back on the same day, allowing only three and one-half hours at the point of destination, including the noon hour. With the service of the train which was taken off, it was possible to reach Spring Valley from Eau Claire at about 4:30 p. m., the four hour wait at Woodville being eliminated.

It was also pointed out by witnesses that it was formerly possible for residents of Spring Valley to leave that station at about 6:30 p. m., and connect, after a wait of about two hours, with the evening train for St. Paul. Under the present schedule a business man desiring to transact business in the morning at St. Paul must leave Spring Valley at 3:00 o'clock on the preceding day, thus losing an afternoon's work. The afternoon train, however, makes close connection with the main line train west which arrives in St. Paul at 5:30 p. m.

The third, and probably the most important objection to the present schedule from the point of view of the petitioners is that persons coming to that village on business have only about four and one-half hours to stay if they return the same day. This period is from 10:20 a. m. to 3:00 p. m. and thus includes the noon hour, which further limits the time available for business transactions. Formerly persons could reach Spring Valley at 10:30 a. m. and leave at about 6:30 p. m., thus having eight hours for business purposes.

The trains which were taken off were mixed ones, leaving Woodville about 4:00 p. m. for Spring Valley and leaving that station for the return trip at about 6:30 p. m. A single combination coach was attached to the freight trains for the accommodation of passengers. These trains have been continued as freight trains, carrying no passengers, and the company's records show that they have been operated daily during the six months ending July 1, 1914, with the exception of Sundays and six other days. Respondent takes the position that on account of the grade on the line between Woodville and Spring Valley, it is impracticable to handle a passenger coach on this train without interfering with the freight business. It was stated that trains frequently are obliged to double back at the steepest grade, and that the combination coach has been occasionally set out on a siding at the county line, the train proceeding to Spring Valley without it and attaching it again on the return trip. An examination of the records of operation, made by a member of the Commission's engineering staff, shows that during the six months ending July 1, 1914, there were comparatively few instances in which the combination coach could not have been carried without doubling back.

Spring Valley has a population of about 1,000 persons. It now enjoys the service of two trains a day in each direction, which is similar to that furnished the other towns on this branch line. Formerly three trains in each direction daily were available at Spring Valley, it being the only town favored with the additional service. The two other villages of importance are Elmwood with about 800 people, and Weston with a population of approximately 300. The freight and passenger earnings of the three stations during 1912 and 1913, as submitted by the company, are summarized in the following table:

Station.	Revenue from passenger tickets sold at station.	Freight revenue.	Total revenue.
Spring Valley			
1912	$9,279 62	$34,957 85	$44,237 47
1913	8,554 60	37,457 74	43,011 60
Elmwood			
1912	5,687 84	28,840 22	34,528 06
1913	6,187 51	35,243 37	41,430 88
Weston			
1912	1,060 68	16,124 68	17,185 36
1913	982 73	18,827 41	19,810 14

The company also submitted data showing the number of tickets sold and the passenger revenue earned by each of the four trains now operated, for a period of fourteen days. These data are summarized as follows:

Train.	Total number of passenger tickets sold.	Revenue to branch line.	Revenue to main line.	Total revenue.
Train number 30				
Total for 14 days	390	$97 36	$182 35	$279 71
Average per day	28	6 95	13 03	19 98
Train number 31.				
Total for 14 days	397½	91 38	97 85	189 23
Average per day	28	6 53	6 99	13 52
Train number 32.				
Total for 14 days	473	97 57	127 25	224 82
Average per day	34	6 97	9 09	16 06
Train number 33.				
Total for 14 days	470½	113 01	215 13	328 14
Average per day	34	8 07	15 37	23 44

Average passenger earnings per mile—train No. 30	$0.26895
" " " " " " " 31	.25243
" " " " " " " 32	.37526
" " " " " " " 33	.42465

It should be noted that all trains operated on this branch line carry freight to a greater or less extent in connection with the passenger service. The passenger earnings given above are therefore not indicative of the total earning power of these trains. In such cases both passenger and freight earnings must be taken into consideration in determining whether the trains are being operated upon a profitable basis.

In the light of the testimony and the report of our engineer, we regard as an unreasonable practice the refusal of the respondent to allow passengers to use its freight trains now known as No. 34 and No. 35. These trains must be operated with considerable regularity in order to handle the freight traffic, and there is no serious operating objection to carrying a combination coach or caboose for the accommodation of such passengers as may desire to ride. In fact, a caboose is necessary for the convenience of the train crew, whether passengers are or are not allowed to ride. Were these trains not operated, we should not feel justified in requiring the addition of other passenger trains, but where the use of existing facilities will materially improve the service without any increase in operating expenses, it is manifestly unreasonable to refuse to accord such service to the

public. Inasmuch as the trains in question do not operate south of Spring Valley, this passenger service can not be regarded as a discrimination against Elmwood and Weston. It would be unreasonable to require the operation of two additional passenger trains beyond Spring Valley at the present time, and the freight traffic does not appear to require other trains beyond that point.

IT IS THEREFORE ORDERED, That the respondent, the Chicago, St. Paul, Minneapolis & Omaha Railway Company, restore the passenger service formerly rendered by it between Spring Valley and Woodville, by allowing passengers to ride on its freight trains now designated as No. 34 and No. 35.

ABRAMS BUSINESS MEN'S ASSOCIATION
vs.
CHICAGO, MILWAUKEE AND SAINT PAUL RAILWAY COMPANY.

Submitted March 2, 1914. Decided July 28, 1914.

Complaint was made that the passenger service furnished by respondent at Abrams, Oconto county, Wis., is inadequate and discriminatory, in that northbound passenger train No. 3 does not stop at Abrams for passengers, and that southbound train No. 2 stops only for Milwaukee and Chicago passengers, whereas both trains are stopped elsewhere at points of no greater importance than Abrams; and complaint was further made that the station facilities at Abrams are inadequate for the accommodation of passengers and freight. It appears that subsequent to the filing of the petition respondent began stopping trains No. 2 and No. 3 at Abrams. As to the depot, it appears that the building is about thirty years old, that crates and boxes are often stored in the passenger room, sometimes forcing passengers to the open platform in inclement weather, and that the freight room is frequently overcrowded and infested with rats.

Held: No order need be made at present with respect to passenger train service, since the service at present in effect, if maintained, will satisfy that feature of the complaint. The station facilities, however, are inadequate. The building should be altered and repaired, and vigorous measures should be adopted to rid it of rats. The respondent is ordered to enlarge and repair its station building at Abrams in the manner provided in the order, plans to be submitted to the Commission for approval.

The petition alleges in substance that the passenger service furnished by the Chicago, Milwaukee & St. Paul Railway Company at Abrams in Oconto county is inadequate and discriminatory, in that the northbound passenger train No. 3 does not stop at Abrams for passengers, and that southbound train No. 2 stops only for Milwaukee and Chicago passengers, whereas both trains are stopped at points of no greater importance than Abrams. It further alleges that the station facilities at Abrams are inadequate for the accommodation of passengers and freight. The Commission is therefore asked to take such action as it deems proper in the premises.

The respondent, in its answer, submits a letter from its assistant general manager which states that arrangements have been made to stop train No. 2 on signal without restrictions at

Abrams, but that it would be inconsistent to stop train No. 3 at that point because of its fast schedule and the important connections which it makes. The letter admits that the freight depot is somewhat crowded at infrequent intervals and that there is ground for complaint that shipments have been damaged by rodents, but states that measures will be taken to correct this condition. It further says that it will keep the passenger station in a sanitary condition and will increase the seating capacity if space will permit. The dismissal of the complaint is therefore asked.

A hearing was held at Abrams on March 2, 1914. *A. J. Whitcomb* appeared for the petitioner, and *J. N. Davis* for the respondent.

The respondent is now stopping trains No. 2 and No. 3 at Abrams. No order will therefore be issued with reference to train service at this time, since this service, if maintained, will satisfy that feature of the complaint.

The testimony shows that the depot at Abrams is about thirty years old. It consists of a freight room approximately 24 by 23 feet and a passenger room 16 by 16 feet in dimension. Witnesses stated that the freight room is frequently overcrowded and that crates and boxes are often stored in the passenger room, with the result that on some occasions passengers are forced to wait on the open platform in inclement weather. The freight room is infested with rats, and merchants testified that they are compelled to haul away their goods as soon as they arrive in order to avoid damage from this source. Abrams is surrounded by a prosperous farming community, about 65 per cent of the land being under cultivation. The chairman of the town of Pensaukee estimated that more than 2,100 persons are naturally tributary to Abrams for railway service. As many as twelve persons at a time wait for trains at the station.

In the light of the testimony and of the report of our engineer we find that the facilities at Abrams are inadequate. The building should be enlarged so as to provide a freight room at least 36 feet in length and the full width of the building, and should include a small room adjoining the waiting room suitable for the protection of perishable goods in cold weather. A new floor in the freight room should be provided, and the sidings and battens and the roof should be renewed and painted, so as to render the structure presentable and weatherproof. The pas-

senger room is sufficiently large for the existing traffic, if devoted entirely to the accommodation of passengers. Vigorous measures should be adopted to rid the freight room of rats.

IT IS THEREFORE ORDERED, That the respondent, the Chicago, Milwaukee & St. Paul Railway Company, enlarge and repair its station building at Abrams so that it shall be weatherproof and presentable, and large enough to adequately accommodate the freight and passenger traffic, plans to be submitted to the Commission for approval.

November 1, 1914, is considered a reasonable date at which the improvements ordered herein shall be completed.

CITY OF RACINE

vs.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted May 12, 1914. Decided July 28, 1914.

The respondent petitioned for a rehearing in the matter of *City of Racine v. C. & N. W. R. Co.* 1913, 11 W. R. C. R. 740, involving the construction and maintenance of a subway at Mound avenue in the city of Racine, and suggested a change in the original order on the ground that, for a relatively small additional expense, a more favorable grade of approach to the subway in question could be secured, and the necessity of further substantial change of the tracks at this point, in case of a general grade separation in the city, could be obviated. The petitioner contended that an additional subway for foot passengers should be constructed at Maple street. As to the issue raised by the city over the apportionment of the cost under the revised plans, it appeared that, in addition to the improved convenience of the subway for the traveling public, the accomplishment at the present time of that part of the work forming a permanent part of a possible general track elevation, would relieve the petitioner of approximately the same expense in the future.

Held: The change suggested by respondent would result in a more satisfactory subway than that originally ordered. The original order is therefore vacated, and in lieu thereof respondent is ordered to build the subway in question as specified in the present order. The proposed additional subway for foot passengers at Maple street is unnecessary. A foot path, parallel to the railway line, and extending from Maple street to the subway at Mound avenue would give better service, and cost much less. Respondent is ordered to construct such a footpath in the manner specified in the order. That part of Maple street lying between respondent's right of way limits is ordered closed, and respondent is authorized and directed, upon the opening of the subway and footpath, to obstruct that part of Maple street just described so that it cannot be used for public travel. The changing of the grade of Mound avenue by the petitioner so as to comply with the provisions of the order is made a condition precedent to the obligations of the respondent. The apportionment of 20 per cent of the cost to the petitioner and 80 per cent to the respondent, adopted in the original order, is deemed equitable under the revised construction, and is not changed. Barring the contingencies noted, the work is to be completed, and the subway and footpath opened for public use on or before October 1, 1914.

REHEARING.

An order was issued in this matter on May 14, 1913, *(City of Racine v. C. & N. W. R. Co.* 11 W. R. C. R. 740) requiring the

Chicago & North Western Railway Company to construct and maintain a subway at Mound avenue in the city of Racine in accordance with the specifications predicated upon the existing track level of the city. In the preparation of plans for compliance with this order it became evident to the respondent that by raising the tracks at this point, substantially as they would have to be raised in case of a general grade separation in the city, a more favorable grade of approach to the subway for highway travel could be secured for a relatively small additional expense. The respondent therefore petitioned for a rehearing in the matter, and such rehearing was held at Madison, on May 12, 1914. *E. R. Burgess* appeared for the petitioner and *William G. Wheeler* for the respondent.

At this hearing all parties agreed that the change suggested by the respondent would result in a more satisfactory subway than that originally ordered. The discussion had reference chiefly to the effect which the altered plan should properly have upon the apportionment of the cost. The city argues that since a considerable part of the cost under the revised plan will be incurred in effecting a track elevation which will form a permanent part of a general track elevation which may become necessary in the future, this part of the cost should be borne entirely by the company. Should grade separation become necessary in the future, a portion of the work contemplated in the revised plans will form a permanent part of such a general track elevation, and its accomplishment at this time will relieve the city of approximately the same expense at some future time. In view of this condition and the further fact that under the revised plans the convenience of the subway for the traveling public will be materially improved, we feel that the apportionment adopted in our former order is equitable under the changed construction.

At the hearing and in its brief the city advocated the construction of a subway for foot passengers at Maple street in addition to the subway at Mound avenue. The necessity for such a subway for pedestrians has been investigated by the Commission's chief engineer. Having in mind his report and the testimony, it is our opinion that a subway at Maple street is unnecessary. Persons living on Maple street or Randolph street will be better served by a footway parallel to and southwest of the railway line extending from Maple street to Mound avenue with steps down the sidewalk at the portal of the subway at

Mound avenue. With this arrangement, the distance from Maple street to points on Mound street northeast of the tracks would be greater than if a subway at Maple street were provided; but it is probable that the people affected more often go from Maple street to Sixth street or take a car for the center of the city, and for such travel the footpath suggested would be some two hundred feet shorter than the Maple street subway. As estimated by our engineer, the subway would cost approximately $9,200, as opposed to only about $435, for the footpath southwest of the tracks.

Our former order herein is therefore vacated hereby and in lieu thereof

IT IS ORDERED, That the respondent, the Chicago & Northwestern Railway Company, construct a subway under its tracks at Mound avenue in the city of Racine, and a footpath southwest of its tracks and parallel thereto, connecting said subway and Maple street, according to the conditions hereinafter specified; and that it elevate its roadway and tracks from a point at or near the south end of the bridge over Root river to a point 225 feet south of the south line of Liberty street, so that at Mound avenue the height of the crown of the roadway in the subway above city datum and the clear headroom shall be in accordance with the specifications hereinafter mentioned.

SECTION 1. The crown of the roadway in the subway shall be 34.6 feet above city datum. This level shall extend on the west for a distance of 20 feet west of the west portal, and on the east 20 feet east of the east portal of the subway, measured along the center line of the street. From this level both approaches shall continue by vertical curves and grades not to exceed 3.5 feet in 100 feet to an intersection with the present grade of Mound avenue. The width between the walls of the subway shall be 60 feet, the width of the roadway in the level portion 40 feet, the width of the roadway on the approaches 36 feet, the width of sidewalks in the level portion 10 feet, and the width of sidewalks on the approaches 6 feet. The height of the sidewalks in the subway and approaches shall be 38.6 feet above city datum. Two lines of posts may be placed in the curb lines and inside thereof, and one line of posts in the center of the roadway to support the girders. The subway shall have a clear headroom of 14 feet.

SECTION 2. The subway and approaches shall be excavated to the grade established by this order and shall in all other respects be restored as nearly as may be to their condition before being disturbed. The floor of the subway and the approaches shall be paved with a single course of vitrified brick of standard quality, set upon a foundation of hydraulic cement. The curbs shall be of sound, hard limestone or concrete masonry. The sidewalks shall be paved with Portland cement concrete.

SECTION 3. Provision shall be made for the drainage of the subway by the construction of catch basins properly located in or immediately adjacent to said subway, which catch basins shall be connected with and discharge their contents into the adjacent city sewers.

SECTION 4. The footpath between Maple street and the west portal of the subway shall be 6 feet wide, shall be paved with Portland cement concrete, and shall be connected with the north sidewalk at the west portal of the subway by suitable concrete steps.

SECTION 5. If it shall become necessary to disturb, move or deflect any of the conduits, pipes, poles, wires or other property belonging to any public utility, the interested company shall be notified to that effect by the railway company, and such utility shall within 10 days after the receipt of such notice, and at its own expense, proceed to make the required changes.

SECTION 6. The railway company may, whenever the same shall be necessary in the prosecution of the work ordered herein, obstruct temporarily any public street, avenue or alley, to such extent and for such length of time as may be approved by the commissioner of public works for the city of Racine, and it may, when necessary, erect and maintain temporary structures and false work in any of said streets subject to like approval. It may erect and maintain upon its right of way, subject to the approval of the proper city authorities, temporary offices and sheds for the storage of tools and material, and temporary outhouses for the convenience of workmen.

SECTION 7. The grade of Mound avenue shall be changed by the city of Racine in order to comply with the provisions of this order, as a condition precedent to the obligations of the railway company.

SECTION 8. That part of Maple street lying between the right of way limits of the railway company is hereby closed, and said

company is authorized and directed to obstruct the same so that it can not be used for public travel upon the opening of the subway and footpath herein ordered.

SECTION 9. All work ordered herein shall be performed subject to the inspection and approval of the Commission.

SECTION 10. Upon the completion of the work ordered herein, and the adjustment of damage claims resulting therefrom, the railway company shall furnish the Commission with a complete and detailed account of all expenses incurred by it therein, including any damages to adjacent property or business caused by the proper prosecution of the work ordered, whereupon the Commission, with or without further hearing as may be deemed best, will determine the actual cost of such work, and the city of Racine shall thereupon pay to the railway company 20 per cent of the cost as so determined by the Commission, and 80 per cent thereof shall be borne by the railway company.

SECTION 11. The work ordered herein shall be completed and the subway and footpath opened for public use on or before October 1, 1914. Delays occasioned by strikes, riots, judicial intervention, the failure of public utilities to change pipes, conduits, wires or other property within the specified time, or by action of the city, shall be added to the time allowed herein for the completion of the work, provided that the railway company gives immediate notice in writing to the Commission and the city attorney of the cause and duration of such delays.

TWENTY-SECOND WARD ADVANCEMENT ASSOCIATION
vs.
THE MILWAUKEE ELECTRIC RAILWAY AND LIGHT COMPANY.

Submitted March 11, 1914. Decided July 28, 1914.

Complaint was made that the service of respondent from the Twenty-second ward of Milwaukee to the down-town district was inadequate and discriminatory, and the Commission was asked to require the respondent to provide through service over the routes suggested by petitioner and to establish a schedule adequately providing for the district's service demands. The service in the district in question was thoroughly investigated by the Commission in various aspects. It appeared that up to 8 o'clock in the morning and from 5:30 o'clock to 7 o'clock in the evening, i. e. during the rush hours, respondent operated through service to the center of the city over one route only, that at other times persons had to transfer and wait, that the present arrangement was inconvenient and annoying, and that a total population of approximately 50,000 people was involved. It also appeared that the present arrangement of through lines in Milwaukee, necessitating the operation of more cars than are required by the traffic conditions during the non-rush hours in the down-town district, resulted in much wasted car mileage, and that additional extension of through down-town service during the off-peak period, instead of the proper development of cross-town lines, and the adjustment of the transfer system, would still further increase that waste.

Held: The operation of continuous through service from the Twenty-second ward to the center of the city, in the manner suggested by the petitioner, would not be in accord with the best interests of the city. The development of the city has now reached the point where it is impossible for every city line to be routed to the down-town district. The existing cross-town lines should be preserved as such, and the extensions of the system to meet the needs of new territory added to the city should be accomplished by the establishment of other cross-town lines, rather than by the creation of new lines operating through the center of the city over already congested routes. However, during the rush hours, when large numbers of patrons are moving from an outlying district to the center of the city, it is only reasonable that through cars should be operated for their convenience. In addition to the present through service down town over the 27th street line via State street during rush hours, respondent should operate through cars from the Twenty-second ward to the center of the city via North avenue.

It is ordered that the respondent operate through cars from the north terminus of its 27th street line to the down-town district via State street, and from the west terminus of its North avenue line to the down-town district via 8th street, during morning and evening rush hours as fixed in the Commission's former

order, *In re Service of T. M. E. R. & L. Co. in Milwaukee*, 1913, 13 W. R. C. R. 178. The additional service ordered is to be in operation by September 1, 1914.

The petition alleges in substance that no street cars are operated in a continuous route from the Twenty-second ward of Milwaukee to the down-town district over the Thirty-fifth street line, the Twenty-seventh street line or the North avenue line, with the result that residents of that ward are compelled to transfer in going from their home to the business section of the city, a condition which renders the service unreasonable, discriminatory and inadequate. The Commission is therefore asked to require the respondent to provide through service on Thirty-fifth street and Twenty-seventh street by operating its State street line so that alternate cars shall be run north on Twenty-seventh street to Burleigh street and north on Thirty-fifth street to Burleigh street, and to establish a schedule which will adequately provide for the service demands of the Twenty-second ward.

No answer was filed by the respondent.

Hearings were held at Milwaukee on February 21 and March 11, 1914. *Daniel W. Hoan* appeared for the petitioner and *Edwin S. Mack* for the respondent.

The testimony shows that during the rush hours, namely up to 8 o'clock in the morning and from 5:30 to 7 o'clock in the evening, through cars are operated from the Twenty-second ward to the center of the city by way of 27th street and State street. At other times persons are obliged to transfer from the 27th street line in order to reach the down-town district. No through cars are operated on either 35th street or North avenue, and a transfer must be made to reach the center of the city if these routes are used. Numerous witnesses testified that this arrangement is inconvenient and annoying, owing to the delay and discomfort attendant upon transferring from one line to another. A number of specific instances were cited where passengers have waited at the transfer point for several minutes and then been obliged to stand. It was alleged that the existing arrangement is so unsatisfactory that some residents of the Twenty-second ward are moving out to points where direct down-town service can be had. The service under consideration affects the Twenty-second ward, which has a population of about 20,000, and also the Nineteenth and Twentieth wards to a less extent, the total

population concerned totaling approximately 50,000 persons. This section of the city has had a rapid growth within the last few years. Satistics were introduced showing that the building permits issued in 1911 and 1912 in the Twentieth and Twenty-second wards exceeded in number and estimated cost those issued in any other ward of the city. Witnesses for the petitioner suggested that the State street cars be operated alternately on 27th street and 35th street as prayed for in the petition, or that through service from the down-town district be supplied by routing cars from State street north on 27th street and west on North avenue.

The company takes the position that the traffic does no warrant the operation of through cars from this district to the center of the city except during rush hours, and that the operation of continuous through service as prayed for would interfere with the proper use of the cross-town lines.

The Commission's engineering staff has conducted a thorough investigation of the service in the district in question. Transfer traffic was analyzed, and a count taken at 25th street and North avenue. The matter has been considered with reference to the service in the city as a whole and the maintenance of the standards of rush hour and non-rush hour service fixed in the *Service Order* of November 25, 1913 (13 W. R. C. R. 178).

Having in mind the testimony and the reports of our engineers, it is our opinion that the operation of continuous through service to the center of the city from the Twenty-second ward over the 27th street and 35th street lines, or over 27th street and North avenue, as suggested by witnesses for the petitioner, would not be in accord with the best interests of the city of Milwaukee. The development of the city has now reached the point where it is impossible for every city line to be routed to the down-town district. This condition is normal and confronts every large street railway system except under very unusual conditions. The present arrangement of through lines is such that in order to preserve a reasonable minimum time interval between cars in the outlying portions of the city, many more cars than are required by the traffic conditions must now be operated during the non-rush hours in the down-town district. Much car mileage is thus wasted by this uneconomical arrangement, and the waste will inevitably be increased by any further extensions of through down-town service during the off-peak period. Such

an increase in wasted service can be avoided in the future by the proper development of cross-town lines and the proper adjustment of the transfer system so that such lines can be effectively used. The existing cross-town lines should be preserved as such, and the extensions of the system to meet the needs of new territory added to the city should be accomplished by the establishment of other cross-town lines, rather than by the creation of new lines operating through the center of the city over already congested routes.

However, during the rush hours, when large numbers of patrons are moving from an outlying district to the center of the city, it is only reasonable that through cars should be operated for their convenience. The company has recognized this by operating through service down town over the 27th street line via State street during the rush hours. This arrangement should be continued. In addition, traffic conditions appear to warrant the operation of through cars during the rush hours from the Twenty-second ward to the center of the city via North avenue. The most satisfactory routing of such through cars would be, in our judgment, from 47th street and North avenue to 8th street, south on 8th street, Germania and 7th street to Wells street, east on Wells street to 6th street, south on 6th street to Sycamore street, and east to Broadway. By the use of this route the convenience of through service down town during the rush hours will be afforded not only to the Twenty-second ward but also to all the territory served by the North avenue line west of 8th street. The 8th street route is suggested because the present traffic over it is less congested than the 12th street or 3d street routes which might otherwise be followed. With these two direct routes to the center of the city available for use during the rush hours, we believe that the district in question will be reasonably well served, provided, of course, that the standards of service fixed in our former order are strictly adhered to.

The consideration of this case has again brought before the Commission the question of double transfers. To make cross-town service efficient it is necessary in some cases to issue double transfers. In the *Service Decision* the following language was used:

"The company should make a study of the matter and extend the double transfer system where it is necessary to secure the desired results, and if this is not accomplished in a satisfactory

manner, it will be necessary for the Commission to make further investigations and formally consider this question." (1913, 13 W. R. C. R. 178, 213.)

The Company has, up to this time, failed to submit to the Commission a general plan for the extension of its system of double transfers as suggested, and the Commission will therefore proceed to institute an investigation of the matter on its own motion in the near future.

IT IS THEREFORE ORDERED, That the respondent, The Milwaukee Electric Railway & Light Company, operate through cars from the north terminus of its 27th street line to the down-town district via State street, and from the west terminus of its North avenue line to the down-town district via 8th street, during the morning and evening rush hours, in accordance with the standard of rush hour service fixed in our former order.

September 1, 1914, is considered a reasonable date at which the additional service herein ordered shall be in operation.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF THE SERVICE OF THE PEOPLE'S TELEPHONE COMPANY AND THE WISCONSIN TELEPHONE COMPANY AT FALL RIVER, WISCONSIN.

Submitted March 23, 1914. Decided July 28, 1914.

Complaint was made that the telephone service at Fall River, Wis., was inadequate, and that the toll lines furnishing a physical connection between the exchange of the People's Tel. Co. at Fall River, and the exchange of the Wis. Tel. Co. at Columbus were inadequate for the traffic, and the Commission was asked to require the People's Tel. Co. to furnish adequate service, and to authorize and direct the Wis. Tel. Co. to furnish direct service to Columbus for such business men and residents of Fall River as desire it. It seems that general standards of adequate telephone service are to be made effective by the Commission in the near future, and that since the filing of the complaint the service of the People's Tel. Co. has become concededly satisfactory in most respects. As regards the furnishing of direct service to Columbus, it appears that formerly the Wis. Tel. Co. operated telephones within the village of Fall River connected directly with its Columbus exchange, but that since a physical connection was established between its Columbus exchange and the exchange of the People's Tel. Co. at Fall River, the Wis. Tel. Co. has withdrawn this local service entirely, that it now maintains in the village one toll station connected directly with its Columbus exchange, that the proprietor of this station can connect with other residents of Fall River only through making use of both the Columbus and Fall River exchanges and the physical connection between the two, and that this cannot be regarded as local service. There is no question that it is physically possible for the People's Tel. Co. to render adequate service with its local exchange, and with a sufficient number of direct connecting lines between its Fall River exchange and the Columbus exchange of the Wis. Tel. Co., and that the extension requested would result in duplication of equipment, and unwarranted competition, both of which ch. 610, laws of 1913, aims to eliminate.

Held: Decision as to the adequacy of the service of the People's Tel. Co. at Fall River is held in abeyance for the present. As to the extension of service requested of the Wis. Tel. Co., the Commission is without jurisdiction. The Wis. Tel. Co. is not obligated to furnish service of a local character in the village. On the contrary, it could only make the extensions in question after filing notice with, and securing the approval of the Commission under ch. 610, laws of 1913, and it would be contrary to the established policy of the legislature for the Commission to permit or require the extension of the Wis. Tel. Co's lines into Fall River for local service, even though such requirement were legally possible.

This is an investigation, on motion of the Commission, of the service rendered by the People's Telephone Company and the Wisconsin Telephone Company at Fall River, which was instituted following the receipt of a complaint signed by eight residents of that village. This complaint alleges in substance that the service of the People's Telephone Company is inadequate because of poor equipment and inefficient operation; that the Wisconsin Telephone Company formerly operated telephones within the village of Fall River connected directly with its Columbus exchange, but that since a physical connection has been established between it and the People's Telephone Company, it has withdrawn this service except to one patron who still retains his telephone connection with Columbus; that an additional fee of $3 is charged subscribers of the People's Telephone Company at Fall River for connection with Columbus and for printing their names in the Columbus directory of the Wisconsin Telephone Company; that but two toll lines are operated between the Fall River and Columbus exchanges, which toll lines are inadequate for the traffic; and that direct connection over the lines of the Wisconsin Telephone Company is necessary for the adequate service of business men and other residents of Fall River. The Commission is asked to require the People's Telephone Company to furnish adequate service and to authorize and direct the Wisconsin Telephone Company to furnish direct service to such business men and residents of Fall River as desire it.

A hearing was held on March 23, 1914, at Fall River. *George E. Bunsa* appeared for the complainants, *Doerfler, Green & Bender,* by *T. H. Sanderson,* for the People's Telephone Company, and *J. F. Krizek* and *F. M. McEniry* for the Wisconsin Telephone Company.

Witnesses for the complainants conceded at the hearing that the service of the People's Telephone Company had shown marked improvement since the filing of the complaint, and that it is now satisfactory in most respects. In view of this fact, and the further consideration that the Commission is now engaged in formulating general standards of adequate telephone service which will be made effective in the near future, it appears inadvisable to take any action with reference to that phase of complaint at the present time. Our decision as to the adequacy of

the service of the People's Telephone Company will therefore be held in abeyance.

In our judgment the extension of the service of the Wisconsin Telephone Company into territory already occupied by the local company is not warranted by the local conditions. Such an extension would inevitably result in duplication of equipment, and, unless carefully safeguarded, in the ultimate outing of the less powerful company. It is the express intent of chapter 610 of the laws of 1913 to eliminate the waste of such unwarranted competition, and the Commission has repeatedly refused to countenance the extension of lines where adequate service can be rendered by the company already in the field. That it is physically possible for the People's Telephone Company to render adequate service with its local exchange and with a sufficient number of direct connecting lines between its Fall River exchange and the Columbus exchange of the Wisconsin Telephone Company cannot be questioned. It would therefore be contrary to the established policy of the legislature, as applied by this Commission, to permit or require the extension of the Wisconsin Telephone Company's lines into Fall River for local service, even though such requirement were legally possible.

However, in the present case the Commission is without jurisdiction to require such an extension. The Wisconsin Telephone Company maintains one toll station within the village limits of Fall River, connected directly with its Columbus exchange. It is impossible for the proprietor of this station to be connected with other residents of Fall River without making use of both the Columbus and Fall River exchanges and the physical connection between the two companies. This cannot be regarded as local service, and the Wisconsin Telephone Company is not obligated to establish other stations in the village which would render its service local in character. On the contrary, such extensions of its service could only be made after filing notice with and securing the approval of this Commission under chapter 610, laws of 1913.

The prayer of the complaint for the extension of the service of the Wisconsin Telephone Company into Fall River is therefore dismissed.

TOWN OF ELCHO

vs.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted Jan. 19, 1914. Decided July 31, 1914.

Complaint was made that the respondent had failed to construct a highway crossing at a point about one and one-fourth miles north of Summit Lake, at which point a new road laid out by the petitioner intersected the line of the respondent, and that respondent's failure to do so created a condition dangerous to public travel. The Commission is asked to determine the mode and manner of the crossing, and to require the respondent, at its own expense, to construct, grade and maintain in a safe condition for public travel the portion of the highway lying within its right of way lines.

The respondent contended that the proceedings with reference to the laying out of the highway in question were invalid for several reasons, which are stated in the decision, and that, since an order determining the mode and manner of the proposed crossing can be effective only upon the legal opening of the highway, the Commission should not act unless the proceeding is clearly valid.

Held: The technical validity of the action of the town board in laying out a highway over the right of way of a railway company must be determined in the courts, and in the present case is immaterial so far as the proceeding before the Commission is concerned. (*Town of Gillett v. C. & N. W. R. Co.* 1912, 9 W. R. C. R. 535.) Pending an adjudication by the courts, the Commission has no choice but to determine the mode and manner of the crossing as provided by law.

It appeared that the crossing at grade had already been constructed in spite of active opposition on the part of the respondent, and that the angle of crossing was acute. Respondent contended that the crossing as constructed was dangerous, but admitted that it could be made less so through reconstruction at right angles to the track. Respondent stated that an overhead highway crossing could be constructed about 1,000 feet south of the existing site at a cost of approximately $7,000. The traffic on the highway in question is light and the surrounding country only partially developed.

Held: A separation of grades, involving a relatively large expense, is not warranted at the present time by traffic conditions. It would necessitate the relocation of the highway in question, and, when necessary, can be accomplished at a cost not materially greater than that which would now be incurred. A reasonably safe grade crossing is practicable. But for the sake of public safety, the present highway should be altered so as to cross the track at right angles. The Commission assumes that if the proceedings of the town board to lay out the high-

way over the point in question should be declared invalid, new proceedings will be instituted.

Petitioner contended that under sec. 1299*h*—1 of the statutes, the respondent is required to construct a suitable crossing within its right of way entirely at its own expense.

Held: Sec. 1797—12*e*, subsequently enacted by the legislature, imposes upon the Commission the duty, upon petition, of determining the mode and manner of a proposed crossing in the interest of public safety, and of apportioning the cost of such crossing between the railway company and the municipality in interest. Necessarily, where the offices of the Commission are invoked in such a case, the provisions of the earlier statute become inactive as to the particular case. The action of the Commission in the present case is predicated upon sec. 1797—12*e* of the statutes.

It is ordered: (1) that the respondent construct, at the point in question, a suitable grade crossing approximately at right angles to its track; (2) that the respondent furnish all necessary material and labor, and perform all necessary work in carrying out the order; and (3) that the petitioner bear 50 per cent and respondent 50 per cent of the cost as determined by the Commission. Sixty days is considered a reasonable time within which to comply with the order.

The petitioner, a regularly organized town in Langlade county, alleges in substance that the town of Elcho has laid out a highway which intersects the line of the Chicago & North Western Railway Company about one and one-fourth miles north of Summit Lake; that this highway has been made a part of the county highway system by the county board with the approval of the Wisconsin highway commission, and that the respondent has failed to construct a suitable highway crossing at the intersection of its line and this new road, thereby creating a condition dangerous to public travel. The Commission is therefore asked to determine the mode and manner of the crossing and to require the respondent, at its own expense, to construct, grade and maintain in a safe condition for public travel the portion of the highway lying within its right of way lines.

The respondent, in its answer, alleges that the proposed crossing, if opened, would be an extremely dangerous one, and asks that the Commission determine the way in which the crossing should be made.

A hearing was held at Antigo on January 19, 1914, at which *C. J. Te Selle* and *George Bowler* appeared for the petitioner, and *C. A. Vilas* for the respondent.

Exhibits introduced by the petitioner and the testimony of the town officials show that on November 6, 1912, a petition asking that a new highway be laid out over a designated route in the

town of Elcho was filed with the supervisors of the town, who thereupon proceeded to take such action as they deemed necessary for laying out the highway. The order declaring the specified route to be a public highway was issued on December 3, 1912, and on the same day an award of damages was made in general terms, the names of property owners and the extent of their holdings not being set forth. On April 22, 1913, the county board on petition of the town of Elcho adopted the proposed route subject to the approval of the Wisconsin highway commission, which approval was granted prior to November 11, 1913. The route designated is as follows:

"Commencing at a stake in center of highway 600 ft. south of ¼ post between sections 24–34–10 east and 19–34–11 east, thence southeast, south and southwest across west ½ of the s. w. quarter section 19 to section corner 24–25–19–30, thence south to ⅛ post, thence southwest across the s. e. of the n. e. section 25–34–10, thence south along ⅛ line to ⅛ stake on s. w. corner of n. e. of the s. w. section 25 thence in a southwesterly and west across the s. w. of the s. e. and the south ½ of the s. w. quarter section 25 to section corner 25–26–35–36, thence southwest and southeast across east ½ northeast quarter and east ½ southeast quarter section 35. Also across the southwest corner of the s. w. of the s. w. 36–34–10. All the above route is in the town 34–10 and 11 east."

Respondent in its brief agrees that the proceedings with reference to the laying out of the highway in question are invalid because (1) the description of the proposed route does not include any property of the Chicago & North Western Railway Company, (2) because no specific award of damages for land to be taken for the proposed highway was made by the town board, and (3) because no notice of *lis pendens* was filed in the office of the register of deeds, and the final resolution or order was never recorded in the office of the register of deeds as required by sec. 3187—*a* of the statutes. It contends that since an order determining the mode and manner of the proposed crossing can be effective only upon the legal opening of the highway, the Commission should not act unless the proceeding is clearly valid.

The validity of the action of the town board in laying out a highway over the right of way of a railway company is not a proper subject for this Commission to pass on, but is one which must be determined in the courts. Pending such adjudication,

the Commission has no choice but to determine the mode and manner of the proposed crossing as provided by law. In the present case the town board has apparently acted in good faith in laying out the highway, and the technical validity of that action is immaterial so far as the proceeding before this Commission is concerned. (*Town of Gillett v. C. & N. W. R. Co.* 1912, 9. W. R. C. R. 535.)

Turning, therefore, to the physical surroundings at the proposed crossing, it appears that a crossing at grade has already been constructed in spite of active opposition on the part of the respondent. The railway runs northeast and southwest and the road approximately east and west, the angle of crossing being acute. The track is on a fill at this point, and the highway approaches ascend slightly to the crossing. The view of trains, as observed by the town chairman from various points in the road is as follows:

Distance of point of observation in road from track.	View northeast.	View southwest.
East 200 feet	¼ mile	666 feet
" 325 "	¼ "	*
" 800 "	799 feet	468 "
West 200 "	800 "	820 "
" 250 "	785 "	*
" 280 "	643 "	*
" 400 "	*	665 "

*Not given.

The former town chairman testified that a good view of trains in both directions can be had at a point fifty feet from the track on either side. Both he and the present town chairman expressed the opinion that the crossing at grade is reasonably safe. A knoll north of the highway and west of the track obscures the view to some extent for pedestrians, but not seriously for persons in vehicles. It was estimated that this knoll could be removed at a cost of approximately $50, and under date of July 1, 1914, the town chairman advised the Commission that it had been removed by the town. Photographs of the crossing and its surroundings were introduced by the railway superintendent.

Respondent's engineer expressed the opinion that the grade crossing as constructed is dangerous to public travel. He stated that it is practicable to construct an overhead highway crossing about 1,000 feet south of the existing site at a cost of approx-

imately $7,000. He admitted, however, that the grade crossing could be made less dangerous by reconstructing it at right angles to the track and by removing the knoll in the northwest angle.

The surrounding country is only partially developed, and the traffic on the highway is light, being estimated by witnesses at from three to eleven teams a day. At the time of the hearing, however, the road was not in first class condition and the travel over it was probably less numerous than will be the case in the future. Most of the travel that has formerly moved over the highway which the new one is designed to replace will eventually pass over this crossing, and with the development of the district this traffic will, no doubt, become important. However, a material increase cannot be predicted for the near future.

From a careful examination of the testimony, and from an inspection of the crossing at the time of the hearing, it is our judgment that traffic conditions do not warrant a separation of grades at the present time. The physical conditions are such that a reasonably safe grade crossing is practicable, and in view of the undeveloped state of the surrounding territory, and the limited use of the highway it does not appear reasonable to impose the relatively large expense of constructing an overhead crossing upon either the town or the railway company. When such a change becomes necessary it can be accomplished at a cost not materially greater than that which would be incurred at the present time, since the highway has already been constructed and would have to be relocated in order to effect a separation of grades. It is our determination, therefore, that the crossing shall be at grade. The site at which the crossing has been constructed is apparently the most favorable one in the vicinity for a grade crossing and we assume that if the proceedings already taken by the town to lay out the highway over the right of way at this point should be declared invalid by the courts, that new proceedings will be instituted. However, we regard it as necessary for public safety that the highway should be altered so as to cross the track at right angles.

Counsel for petitioner maintains that under sec. 1299*h*—1 of the statutes the company is required to construct a suitable crossing within its right of way entirely at its own expense. Sec. 1299*h*—1 was enacted as chapter 120, laws of 1907. The legislature subsequently enacted sec. 1797—12*e* (ch. 540, laws of 1909 and ch. 191, laws of 1911), which imposes upon the Commission

the duty of determining the mode and manner of a proposed crossing in the interest of public safety upon petition of the municipal authorities or the railway company. It also requires the Commission to apportion the cost of such crossing between the railway company and the municipality in interest. Therefore, when the offices of the Commission are invoked to determine the mode and manner of crossing, the provisions of the earlier statute must necessarily become inactive as to the particular case in hand. Our action herein is therefore predicated upon sec. 1797—12*e* of the statutes.

We regard as equitable an apportionment under which the town shall pay 50 per cent of the total cost of the railway company 50 per cent thereof.

IT IS THEREFORE ORDERED, That the proposed crossing of the new highway, laid out by the supervisors of the town of Elcho from Elcho to Summit Lake by their order of December 3, 1912, and the line of the Chicago & North Western Railway Company be at grade; and the respondent, the Chicago & North Western Railway Company, is hereby directed to construct a suitable grade crossing approximately at right angles to its track where the highway as now constructed crosses its right of way about one and one-fourth miles north of Summit Lake.

IT IS FURTHER ORDERED, That the said respondent furnish all necessary material and labor and perform all necessary work in fulfilling the provisions of this order, and that upon the completion of the work said respondent furnish the Commission with a complete and detailed account of all expenses incurred by it therein, whereupon the Commission, with or without further hearing as may be deemed best, will determine the actual expense of constructing the crossing, and the town of Elcho shall thereupon pay to the respondent 50 per cent of the cost as so determined by the Commission, and 50 per cent thereof shall be borne by the respondent.

Sixty days is considered a sufficient time within which to comply with this order.

IN RE PROPOSED EXTENSION OF THE LINE OF THE EAST VALLEY TELEPHONE COMPANY IN THE TOWNS OF SCOTT AND SHERMAN, SHEBOYGAN COUNTY, WISCONSIN.

Decided July 31, 1914.

The East Valley Tel. Co. notified the Commission of a proposed extension of its line in the towns of Scott and Sherman, Sheboygan county. Upon investigation by the Commission it was found that the line had already been built, and that its eastern end was about a mile west of the nearest point on the Random Lake Tel. Co.'s line. The territory involved was new and unoccupied, but the Random Lake Tel. Co. considered it as belonging to itself, and objected to the extension for that reason. However, the latter company had not instituted proceedings before the Commission with a view to obtaining the right to build. The construction of the line in question in the fall of 1913 was technically a violation of ch. 610 of the laws of 1913. But it seems that, while the law went into effect July 10, 1913, its provisions were not clearly understood by the telephone utilities of the state until some time later.

Held: The evidence does not indicate any willful violation of the law, but rather a failure to comprehend its requirements. Had the East Valley Tel. Co. notified the Commission in the regular way of its proposed extension, and had the same facts been placed before the Commission as those considered in the present case, it would have been impossible to find that public convenience and necessity did not require the extension. Under the circumstances, the Commission will take no action looking toward the withdrawal of the East Valley Tel. Co. from the territory in which the new extension was built.

On August 26, 1913, the East Valley Telephone Company notified this Commission of a proposed extension of its line in the towns of Scott and Sherman, Sheboygan county. Upon investigation by the Commission it was found that the extension had already been built. The extension thus constructed is about two and a half miles in length, running in an easterly direction from a point on the East Valley line into territory in which no telephone line was then in existence. The eastern end of the extension was about a mile, more or less, west of the nearest point on the Random Lake Telephone Company's line, and that company objected to the extension for the reason that it considered the territory to belong to itself. An informal conference was held on the matter in September 1913, but it was not made to ap-

pear clearly what the needs of the residents along the new East Valley line were, and the matter was allowed to rest during the winter in order to afford more opportunity for a determination of the actual situation.

Certain residents near the western part of the new extension who had been desirous of obtaining Random Lake service when the matter first came up renewed their request for such service early in the spring of the present year, and the matter was set for a final hearing at Random Lake on May 15, 1914. At this hearing the East Valley Telephone Company was represented by *P. G. Van Blarcom* and *August G. Bartelt,* and the Random Lake Telephone Company by *Emil C. Thiel.*

There is no doubt that the construction of the East Valley line in the fall of 1913 in the manner above described was technically a violation of ch. 610 of the laws of 1913. That chapter went into effect July 10, 1913, and the construction of the line was not begun until after this date. For the first few weeks after the law became effective, however, there was not a clear understanding of its provisions and requirements among the telephone utilities of the state, and for this reason the Commission has been disposed in cases of unwilful violation of the law during the period in question to treat the matter as though the legal requirements had been complied with and not to require the removal of the line unless the circumstances were such as would have necessitated a finding adverse to the construction of the line had the proper proceedings been taken in the first place.

In the present case, the line was built into new and unoccupied territory. The Random Lake Telephone Company, according to the testimony, hauled poles into this territory about the time the East Valley Telephone Company built its line, but the latter company proceeded with the construction of the line more promptly and forestalled the Random Lake company. The latter company, however, had not instituted any proceedings before the Commission with a view to obtaining the right to build a line. Ordinarily, when territory is entirely unoccupied, there is a plain public convenience and necessity requiring some telephone service, and when one company is aggressive enough in the promotion of its business to take steps toward entering the territory, it is difficult to say there is no public convenience and necessity requiring its line. Thus, it is very unlikely that the Commission could have made a finding adverse to the East

Valley Telephone Company had its notice been filed in the usual way and in strict compliance with the law.

The evidence shows that several persons living along the last mile of the extension made by the East Valley Telephone Company desire the Random Lake Telephone Company's service and do not wish to take the service of the East Valley company. The reason for their choice is the preponderance of their business and social interests in the direction of Random Lake over those in the direction of the East Valley line. The remedy for this situation, however, is a physical connection between the companies by which messages can be interchanged without the duplication of lines. It is almost inevitable that in case of an extension of a telephone line into unoccupied territory intermediate between two companies, some of the residents will prefer the service of the company which is not making the extension, and in some such cases where physical connection is not feasible it has been found necessary to permit some overlapping and paralleling of telephone lines in order to serve the real public needs. Here, however, a physical connection is not only feasible but is in process of construction between the two companies and, we are advised, will soon be in operation. If it is not completed as soon as it should be or is not operated upon reasonable terms, the difficulty can be remedied by application to the Commission.

It follows from what has been said that had the East Valley Telephone Company notified this Commission in the regular way of its proposed extension, and had the same facts been brought out in support of its proposition that are now before the Commission, it would have been impossible to find that public conveniences and necessity did not require the extension. The evidence does not indicate any wilful violation of the law by the company but rather a failure to comprehend its requirements. Under these circumstances, no action will be taken by the Commission looking toward the withdrawal of the East Valley Telephone Company from the territory in which the new extension was built.

MERRILL WOODENWARE COMPANY

vs.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY.

Decided Aug. 5, 1914.

Complaint was made of excess charges on twenty carloads of wood bolts, shipped from Manson and Bradley to Merrill, Wis. It appears that the shipments were billed locally over respondent's line from Manson and Bradley to Heafford Junction, a distance of four miles, at a rate of 3 cts. per cwt., and locally over the line of the C. M. & St. P. Ry. Co. from Heafford Junction to Merrill, a distance of twenty-eight miles, at a rate of 1½ cts. per cwt. Refund is asked on the basis of a 1½ ct. rate. Respondent's tariff applicable to the commodity in question was 2 cts. per cwt. for distances of five miles or less between all points on its line in Wisconsin. The foregoing rate was in effect at the time the shipment moved, and the complaint is not broad enough to warrant an investigation as to its reasonableness.

Held: The charge of 3 cts. per cwt. exacted on the shipments in question was excessive. The reasonable charge exacted should have been 2 cts. per cwt. Refund ordered on that basis.

The petitioner is a corporation engaged in manufacturing woodenware at Merrill, Wis. It alleges that there were shipped to it over respondent's line fifteen cars of bolts from Manson, Wis., to Heafford Junction, Wis., and five cars of bolts from Bradley, Wis., to Heafford Junction, Wis.; that the respondent exacted for said shipments the rate of 3 cts. per cwt., which is unusual and exorbitant; that the same cars were hauled from Heafford Junction to Merrill by the Chicago, Milwaukee & St. Paul Railway Company, a much longer distance than from the points of origin of said shipments to Heafford Junction, and the carrier exacted only 1½ cts. per cwt. for such services. Wherefore petitioner prays that the respondent be required to reimburse petitioner for at least one-half of the charges exacted of it by the respondent on said shipments.

The respondent railway company, answering the petition, expresses a willingness to make reparation upon a basis of 2 cts. per cwt.

The claim was submitted upon the pleadings, papers, vouchers and documents on file.

The petitioner challenges the reasonableness of the charges paid on twenty carloads of wood bolts shipped during the period extending from August 13, 1913, to February 14, 1914, inclusive, from Manson and Bradley to Merrill. These shipments were billed locally over respondent's line from Manson and Bradley to Heafford Junction, a distance of four miles, and charges assessed on a total weight of 1,397,200 lb. at a rate of 3 cts. per 100 lb., amounting to $419.16, and locally over the line of the Chicago, Milwaukee & St. Paul Railway Company from Heafford Junction to Merrill, a distance of twenty-eight miles, and charges assessed on a total weight of 1,412,000 lb. at the rate of 1½ cts. per 100 lb., amounting to $211.82. The petitioner asks for reparation of one-half of the amount paid to the respondent. The respondent is willing to make refund on the basis of 2 cts. per 100 lb. The reasonableness of the rates and charges for the haul from Heafford Junction to Merrill is not attacked.

An examination of tariffs on file with the Commission fails to show any authority for the rate of 3 cts. per 100 lb. on bolts from Merrill to Heafford Junction. The Western Classification, as in effect during the period involved and as still in effect, provides for wood bolts, for staves, shingles or excelsior at Class E rates, subject to a minimum weight of 36,000 lb.; and respondent's tariff G. F. D. No. 16,000, in effect during the same period and still in effect, names a rate on Class E of 2 cts. per 100 lb. for distances of five miles or less between all points on its line in Wisconsin. This rate applies between Manson and Heafford Junction, and in the absence of a more specific rate on wood bolts between these points, would apply to the shipments in question. Had the shipments been subject to the conditions that the product manufactured therefrom should be shipped over respondent's line, the rate properly applicable thereto would have been 1.1 cts. per 100 lb., but as the shipments passed off respondent's line over the Chicago, Milwaukee & St. Paul Railway Company from Heafford Junction to Merrill, they were not subject to such condition. This accounts for the comparatively low rate on the latter line.

The complaint is not broad enough to warrant an investigation into the reasonableness of the rate in question. This, perhaps, is due to the fact that the interests involved do not appear to re-

quire anything further than an adjustment of the charges on the shipments made, as there is no indication that there is to be future shipments requiring the establishment of a proper rate.

The freight bills indicate, as stated, that the shipments were charged at the rate of 3 cts. per 100 lb., on 1,397,200 lb., amounting to $419.16. One shipment was charged as 35,200 lb., being 800 lb. less than the minimum weight applicable in connection with the 2 ct. rate. Adding this 800 lb. to the total weight charged makes the total 1,398,000 lb., which, at 2 cts. per 100 lb., amounts to $279.60; the difference between this amount and the amount actually paid by petitioner is $139.56, for which reparation will be awarded.

We therefore find and determine that the charge of 3 cts. per cwt., exacted on the aforesaid shipments of bolts, is unlawful and that the reasonable and lawful charge that should have been exacted is 2 cts. per cwt., as provided in respondent's tariff G. F. D. No. 16,000.

NOW, THEREFORE, IT IS ORDERED, That the Minneapolis, St. Paul & Sault Ste. Marie Railway Company be and the same is hereby authorized and directed to refund to the petitioner the said sum of $139.56.

IN RE APPLICATION OF THE CASCADE TELEPHONE COMPANY FOR AUTHORITY TO INCREASE ITS RATES.

Submitted May 20, 1914. Decided Aug. 5, 1914.

Application was made for authority to increase rates for telephone service in Cascade, Wis. It appeared that the present rates do not afford a sufficient surplus for interest and depreciation, but that with an increase of 15 cts. per month for two or more party service—there being at present no one party service—the rates would adequately meet requirements with respect to these two items. The suggestion that a discount provision be made in the rates to insure prompt payment of bills is in accord with practice of telephone companies in general and with the holdings of the Commission.

The respondent is authorized to charge, in lieu of present rates, $1.25 per month for two or more party phones, and $1.50 per month for single party phones, bills to be paid quarterly, subject to a discount of 10 cts. per phone per month to subscribers paying within one month.

The present rates of the applicant in and in the vicinity of the village of Cascade, Wis., are stated to be $1.00 per month on all party lines having two or more phones, and $1.25 per month on all single party lines. The application is for authority to increase the rate to $1.25 per month on all party lines having two or more phones, and $1.50 per month on all single party lines.

Hearing was held at the office of the Railroad Commission at Madison on May 20, 1914. *J. E. Hoffman* appeared for the applicant. There were no appearances in opposition.

The hearing disclosed that the company had been in operation about two years; that there had been expended in the construction of the system a sum of about $6,000; that the income of operation was not sufficient to pay a fair return upon the capital invested after operating expenses were met; and that certain extensions and improvements were desired to be made for which it would be necessary to raise additional capital. It was testified that the earnings from operation during the year 1913 amounted to approximately $1,748.70, of which some $250.00 remained uncollected at the close of the year's business. The operating expenses were stated to be $1,435.71, but from the testimony it

seemed that certain amounts were included in that sum which were not properly chargeable to operating expense. The absence of adequate financial reports made it necessary to examine the books and vouchers of the company to determine what items, if any, were improperly given as elements of the operating expense. Such an examination was made with the result that many small items, which were charged on the books of the company as expense of operation, were eliminated as properly belonging in the construction accounts.

The total disbursements for the year 1913 approximated the sum of $2,066.31. Of this amount some $867 appears to have been expended in construction, thus leaving approximately $1,200 for operation of the system.

The cost of operation per subscriber is, therefore, slightly in excess of $9. This figure is perhaps somewhat higher than the normal operating cost of telephone systems of the size and character of the one under consideration. The company has 54 miles of wire line, giving service to 132 substations. The system is evidently a very compact one. It would naturally be concluded that in a situation of this kind the operating costs would run slightly below rather than slightly above normal. It may be said, however, that the company affords exchange with the Plymouth Telephone Company for which it pays the latter 15 cts. per phone per month. For this service no additional charge is made to the subscriber.

Deducting the operating expenses from the gross earnings, the surplus available for interest and depreciation appears to be $548.70, a sum scarcely sufficient to meet a fair allowance for those items. If the rate for two or more party service were raised 15 cts. per month the resulting increase in gross earnings would be $237.60—there being at the present time no subscribers taking single party service. This would increase the allowance for depreciation and interest to $786.30, which is approximately 13 per cent of the amount of the investment, or a 6 per cent allowance for depreciation and 7 per cent for interest. This would seem to adequately meet the needs of the company.

Some difficulty has been experienced by the company in enforcing the prompt payment of bills, and a desire was expressed at the hearing that a discount provision be made in the rates established in order to make it an object to a customer to pay promptly. This suggestion is in accordance with the practice

of telephone companies in general, and with the previous holdings of this Commission.

IT IS THEREFORE ORDERED, That the applicant herein, the Cascade Telephone Company, be authorized to discontinue the rates now in force and to substitute therefor the following schedule:

$1.25 per month for two or more party phone.

$1.50 per month for single party phone.

Bills to be paid quarterly in advance on the first of January, April, July and October, and a discount of 10 cts. per phone per month to be granted subscribers paying within one month.

CHARLES E. McKENNY AND F. R. FINN
vs.
WISCONSIN TRACTION, LIGHT, HEAT AND POWER COMPANY.

Submitted March 30, 1914. Decided Aug. 6, 1914.

Complaint was made that the petitioners, owners of summer cottages near Lake Winnebago, between Waverly Beach and Brighton Beach, stations on respondent's interurban line, cannot conveniently reach those stations without trespassing upon respondent's right of way, which is forbidden, and the Commission was asked to require the respondent to stop its cars on signal at petitioners' cottages. It appeared that in order to reach the stations in question the petitioners were obliged to resort to the dangerous practice of walking along respondent's tracks, or follow a footpath which is almost impassable except during dry weather. The point at which the stop was requested is about 1,700 feet from Waverley Beach station, approximately midway between the two stations involved, and so located that a stop will probably be needed there in the future if the development of the section continues. It also appeared that there was no serious operating objection to the establishment of a flag stop at the point in question, and that stops were in fact being made at other points where only two or three families were involved.

Held: To deny the service requested would be unreasonable under the circumstances of the present case. The respondent is ordered to stop its interurban cars to receive and discharge passengers at a point approximately 1,700 feet west of Waverly Beach station.

The petitioners allege in substance that they own summer cottages near Lake Winnebago between Waverly Beach and Brighton Beach stations on the interurban line of the Wisconsin Traction, Light, Heat and Power Company, and that they cannot conveniently reach these stations without trespassing upon the respondent's right of way, which is forbidden. The Commission is therefore asked to require the respondent to stop its cars on signal at petitioner's cottages.

In its answer the respondent alleges in substance that the distance which the petitioners are required to walk to existing stations is not great, and that the establishment of a stop as prayed for is unnecessary and would lessen the efficiency of the inter-

urban service. The dismissal of the complaint is therefore asked.

A hearing was held on March 30, 1914, at Appleton, at which *F. S. Bradford* appeared for the petitioners and *Van Dyke, Rosecrantz, Shaw & Van Dyke, by Clarke M. Rosecrantz,* for the respondent.

Petitioners' houses are located near the railway track, about 1,700 feet from Waverly Beach station and about 1,900 feet from Brighton Beach station. There is no highway connecting them with these stations, and to secure car service petitioners must walk along the interurban tracks or follow a path along the beach which runs through a marsh and is almost impassable except during dry weather. The danger involved in trespassing upon the respondent's tracks, and the inconvenience of walking to Waverley Beach over a marshy path could be obviated by establishing a flag stop at or near the cottages in question. Witnesses for the petitioners testified that cars frequently arrive in Appleton ahead of their schedules, and expressed the opinion that occasional stops at the proposed station would not interfere with the existing schedules. Respondent's superintendent, however, testified that during the summer months, when the traffic to the beach resorts is at its height, the stopping of cars at the designated points would seriously impede operation. He advanced the argument that if the prayer of the petitioners is granted numerous other residents along the line could demand a similar service.

From a careful examination of the testimony and of the report of our engineer submitted after a personal inspection of the situation, it is our judgment that the interurban cars should stop on signal to receive or discharge passengers at a point approximately 1,700 feet west of Waverly Beach as prayed for. The path referred to in the testimony was impassable at the time of our engineer's inspection late in July when the water was lower than normal; during high water conditions would be even worse. Thus the occupants of the cottages in question are forced to walk along the tracks, which is a dangerous and forbidden practice, or to wade through the submerged path. This condition exists through no fault of the respondent, and is not of itself a sufficient justification for establishing a flag stop. It happens, however, that the cottages are located approximately midway between the two stations, about where a stop will prob-

ably be needed in the future if the development of this section continues. Moreover, there appears to be no serious operating objection to the establishment of a flag stop at this point. The existing schedule time from Neenah to Appleton is ample, and the additional stop would not seriously inconvenience the traveling public. The cars now stop at other points where only two or three families are served, and to make the stop prayed for would not be inconsistent with the company's practice. Under such circumstances it seems unreasonable to deny the interurban service to the petitioners at a point near these cottages.

IT IS THEREFORE ORDERED, That the respondent, the Wisconsin Traction, Light, Heat and Power Company, stop its interurban cars to receive and discharge passengers at a point approximately 1,700 feet west of Waverly Beach station.

IN RE PROPOSED EXTENSION OF THE CORNELL TELEPHONE COMPANY IN THE TOWN OF HOLCOMBE, CHIPPEWA COUNTY, WISCONSIN.

Submitted July 27, 1914. Decided Aug. 7, 1914.

The Cornell Tel. Co. filed notice with the Commission of a proposed extension of its lines in the town of Holcombe, Chippewa county. It appeared that prior to July 11, 1913, the date on which ch. 610, laws of 1913, amending sec. 1797*m*—74 of the statutes, under which this proceeding arises, went into effect, the company was giving certain service in the village of Holcombe, and that prior to the hearing the extensions here involved were made under the misapprehension that the village was incorporated. It did not appear that the demand, which the new service satisfied, could not have been met by the Chippewa County Tel. Co., whose lines the extensions in question paralleled.

Respondent is ordered to permanently discontinue all local service given from such of its lines as were constructed in the town of Holcombe since July 11, 1913.

On July 8, 1914, the Cornell Telephone Company gave notice to this Commission of a proposed extension of its lines in the town of Holcombe, Chippewa county. Notice was served as provided by law upon the other companies operating in that town, namely, the Chippewa County Telephone Company of Chippewa Falls, the Cadott Telephone Company of Cadott, the N. H. Deuel Telephone Company of Arnold, and the Rusk County Telephone Company of Ladysmith. Objection to the extension was made by the Chippewa County Telephone Company and the N. H. Deuel Telephone Company.

A hearing was held at Chippewa Falls July 27, 1914, to ascertain whether or not public convenience and necessity would be best subserved by allowing the extension to be made. The appearances were: For the Cornell Telephone Company, *P. J. Skolsky* and *J. F. Krizek;* for the Chippewa County Telephone Company, *T. J. Connor;* for the Cadott Telephone Company, *Ole Jensen;* for the N. H. Deuel Telephone Company, *N. H. Deuel.*

It developed at the hearing that the extensions had already been made under the misapprehension that the service given

was in an incorporated village, and upon the discovery being made that the village was not incorporated, service to the three subscribers who had been connected was discontinued to permit the Cornell Telephone Company to comply with the requirements of the law. The company was giving service to a few subscribers in the village prior to July 11, 1913, the date on which ch. 610, laws of 1913, amending sec. 1797*m*—74 of the statutes, went into effect. The terminus of the line at that time was at the corner of Main and Irvine streets. Subsequently the company built the extensions under consideration, one, requiring the setting of three poles, running easterly toward the depot along Irvine street, and the other, requiring the setting of ten poles, running northerly along Main street. Both of these extensions paralleled existing lines of the Chippewa County Telephone Company. It may be said in passing that the Irvine street extension was made primarily to carry the toll line of the company, the toll station having been changed from the Holcombe Hotel on Main street to the Folby Hotel on Irvine street. That the poles were set for toll purposes, however, would not make permissible the giving of local telephone service from wires attached thereto, unless the requirements of the law relating to local extensions were complied with first.

The village of Holcombe is a small community of perhaps three or four hundred inhabitants, having stores, hotels and other business enterprises. It can readily be understood that one not residing in the community and unfamiliar with the village affairs, should assume that the place was incorporated. The manager of the Cornell Telephone Company, it appears, is also manager of the Wisconsin Telephone Company exchange at Chippewa Falls. The fact that he was not thoroughly acquainted with the legal status of the community and that he did make some inquiry to ascertain whether or not the place was incorporated, goes only to show that the violation of the law was not wilful and to that extent pardonable. It does not, however, remove the responsibility resting upon the Commission to ascertain whether or not the circumstances are such as would have necessitated a finding adverse to the construction of the lines had the proper legal steps been taken in the first place, and if it is found that they are, to require the removal of the lines constructed. We are forced to conclude that the facts in this

case show that public convenience and necessity do not require the extensions made by the Cornell Telephone Company.

The evidence shows that the Chippewa County Telephone Company had lines in operation along both of the highways upon which these extensions were made. It shows that the Holcombe Mercantile Company, to reach which the longer of the two extensions were installed, was already a subscriber of the Chippewa County Telephone Company. It does not show that there was any public demand for service that the latter company could not have met. Such demand for additional service in Chippewa Falls, as the evidence shows to have existed in Holcombe, could have readily been met by physical connection between the two companies.

IT IS THEREFORE ORDERED, That all local service given from such lines of the Cornell Telephone Company as were constructed in the town of Holcombe since July 11, 1913, be permanently discontinued.

GRAY & ZENTNER

vs.

AMERICAN EXPRESS COMPANY.

Decided Aug. 11, 1914.

Complaint was made that the rate of 75 cts. per 100 lb. on laundry moving between Manitowoc and Green Bay was excessive. The rate in question went into effect Feb. 1, 1914, with the interstate commerce commission's block and sub-block plan of rates, and respondent contended that the complaint could not be satisfied without abandoning that arrangement. It appeared that formerly, under the old point to point tariff, the rate was 15 cts. lower than the present rate, and that Green Bay is nearer to Manitowoc than any other point in its sub-block. Under the Commission's first order with reference to express rates (1913, 12 W. R. C. R. 1, later withdrawn in order to make intrastate rates conform with interstate rates as regards the method of naming rates) the rate between Manitowoc and Green Bay would have been fixed, under scale No. 2, at 60 cts., a rate which would have furnished reasonable compensation. In the present case the rate of 75 cts., based on the interstate commerce commission plan, is the result of one of the defects of that plan, which considers only the sum of sub-blocks east and west and north and south, and fails to take into account short distances on the diagonals, so that in the instant case Green Bay falls just outside the belt of 60 ct. rates, although other stations further from Manitowoc fall within it. While the interstate commerce commission plan contemplates in a general way a 60 ct. belt of rates extending out about 50 miles, the shortest railroad mileage between Green Bay and Manitowoc is only 37 miles, and examination of the situation shows that for practical purposes the express business in the two sub-blocks can be considered as centered at these two main points. As regards the objection to changing the rate in question, because it is based on the interstate commerce commission plan, the fact is noted that in some instances the intrastate block and sub-block rates submitted by the express companies to the Wisconsin Commission, after the change made necessary by that plan, differ materially from the rates which the interstate commerce commission would itself have named, had it had jurisdiction.

Held: The rate of 75 cts. is high for the short distance involved. If defects encountered in the interstate commerce commission plan of rates are due only to a rigid adherence to the method of computation, the defects should be remedied. If the express companies, without jeopardy to that plan, can put in a rate higher than the interstate commerce commission would name, it cannot be maintained that the entire scheme would fall to pieces if a lower rate should be authorized than one which that body would name. The respondent is ordered to discontinue its

charges under Scale No. 5 for the transportation of express matter between block 537, sub-block H, and block 538, sub-block O, and substitute therefor the charges under Scale No. 2.

The petitioners are engaged in the hotel business at Manitowoc, Wis., and in connection with that business ship laundry by express between Manitowoc and Green Bay. They allege that the rate of 75 cts. per 100 lb., under which they ship, is unreasonable and excessive and recite in comparison the lower rates between Manitowoc and Sheboygan and Menasha.

No appearances were entered for the petitioners at the hearing set. The express company introduced no oral testimony, but submitted, through its division superintendent, a letter from the assistant traffic manager of the company, E. E. Bush, and a copy of the testimony of W. A. Ryan of the interstate commerce commission before the Tenneessee railroad commission. Mr. Bush's letter stated that the rate in question had been published strictly in accordance with the sub-block system as promulgated by the interstate commerce commission; that the system had been of great advantage to the shippers of Wisconsin and the country as a whole, as well as to the express companies, in the simplification of tariff statements. He admitted that the case in question showed one of the defects in the system, but it was a defect inherent to any block system of stating rates, and that shippers at Manitowoc and the other points named in the complaint all derive undoubted benefits and advantages from the scheme as a whole. The writer expressed the opinion that the complaint could not be satisfied without abandoning the entire scheme of block and sub-block arrangements.

Mr. Ryan's testimony gave a general review of the interstate commerce commission's investigation of express rates, stated the methods used in determining rates and emphasized the necessity of uniformity in state and interstate rates in order to give the rate scheme a fair test. He admitted that inconsistencies in rates arise under the block and sub-block scheme, but not as many as existed under the old rates. The purpose of the division of the country into blocks and sub-blocks was to reduce the number of rates and thereby simplify them so that shippers could ascertain for themselves what the rates were.

The complaints, while requesting a reduction in the rates on laundry between Green Bay and Manitowoc, do not indicate in their complaint whether they consider the first class rate under

which laundry is shipped between the two points as too high in itself, or whether they consider only the rate on laundry as too high and desire to have the classification of laundry changed so that the charges on it will be less, although the first class rate remains the same. Inasmuch as the complaint, however, contains no reference to classification and compares rates from Manitowoc to Green Bay with rates from Manitowoc to Menasha and Sheboygan, it is assumed that the general level of rates is in question.

The present rate of 75 cts. between Manitowoc and Green Bay went into effect February 1, 1914, with the adoption of the interstate commerce commission's block and sub-block plan of rates. The main features of this plan are scales of charges under which the charges on shipments of light weight are proportionately very much lower to the charges on shipments of 100 lb. than they were under the "graduates" formerly in effect; and the division of the country into sections of territory called blocks and sub-blocks and the naming of rates between those sections instead of between each and every individual point in those sections. To make complete rate schedules the interstate commerce commission had to add to these essential features some scheme of determining what scale of charges should apply between the various blocks and sub-blocks. For long distances rates are named between the larger sections of territories called blocks, each designated by a number. The blocks have too great an area to be used for the shorter distances, so each block is divided into sixteen parts called sub-blocks, each designated by a letter. Under this arrangement the rates between Manitowoc and Green Bay are named as the rates between block 538—sub-block O; and block 537—sub-block H.

Formerly the 100 lb. rate between Manitowoc and Green Bay was 60 cts, or 15 cts. lower than the present rate, but as named in the tariff the rate applied only between these two points. Under the present scheme, the rate between Manitowoc and Green Bay is also the rate between Manitowoc and Pulaski, Sobieski, Big Suamico, Little Suamico and Tremble, the last named points lying with Green Bay in block 537, sub-block H. It is also the rate between Francis Creek and Two Rivers to all the points in block 537, sub-block H. Under the old point-to-point tariff only the situation of Green Bay and Manitowoc had to be considered, but under the new plan the distances between all

the other points must be considered. Green Bay is the nearest to Manitowoc of any of the points in block 537, sub-block H, so that what was formerly a reasonable rate to Green Bay, that point alone considered, would not necessarily be a reasonable rate to Green Bay considered with the other points in the same sub-block. Another consideration tending to justify a higher rate on 100 lb. is found in the other essential feature of the interstate commerce commission plan; namely, that under the new scales the charges on packages of less than 100 lb. are considerably less in proportion to the charges on 100 lb. than under the old "graduates." The bulk of the express business is made up of small shipments, so that a higher 100 lb. basing rate is necessary in order to produce the same amount of revenue from the same traffic. It should be mentioned, however, that small laundry shipments do not participate in the reduction made by the change from the "graduates" to the scales, but this is due to the fact that laundry charges were, and still are, based more directly on the 100 lb. rate than are the charges on ordinary shipments, a method of computation which results in lower charges on laundry than on other business.

This Commission has adopted for intrastate express rates the two essential features of the interstate commerce commission plan, namely, the new scales and the method of naming rates between sections of territory instead of from point to point. As pointed out above, both of these features contain elements tending to justify a higher rate now than before on 100 lb. shipments between Manitowoc and Green Bay, but this does not involve the reasonableness of the general level of either the present or the former rates. It remains, therefore, to determine whether the rates now in effect between block 537, sub-block H, and block 538, sub-block O, are excessive. As recited by Mr. Bush in the letter referred to above, the interstate commerce commission adopted certain methods of computing rates which, applied to the situation in question, gave the scale 5, or 75 cts. per 100 lb. rate now in effect. The interstate commerce commission had to deal with an enormous number of rates covering the interstate business of the entire country. Some refinements of method had in consequence to be sacrificed to the necessity for a plan which would not involve too much labor for each individual rate. Mr. Bush goes as far toward admitting that the rate in question is not entirely reasonable as stating "This particular case points out one of the defects in the system." But he gives

the opinion that the rate cannot be changed without abandoning the entire scheme of block and sub-block rates. Apparently he considers the interstate commerce commission method of computing the rates absolutely essential to the entire scheme. The block and sub-block rates at present in effect on intrastate business in Wisconsin were prepared by the express companies and submitted to this Commission for approval, which was given, subject to certain changes later made. In the course of examination of the rates submitted, the interstate commerce commission was requested to furnish a statement of what rates they would name under their system of computing rates between certain sub-blocks. In some instances the rates named by the interstate commerce commission differed materially from the rates quoted by the express companies. Several of these instances had previously been called to the attention of the express companies but they had insisted their computation of the rates was correct, so that the differences could hardly be explained as due to errors in computation. It would seem, then, that the express companies did not consider that deviations from the rates which the interstate commerce commission would have named had it had jurisdiction (although that body was originator of the plan), would entail the collapse of the entire arrangement of block and sub-block rates, especially if the differences were in their favor. That the interstate commerce commission method of computing rates would give the rate now in effect from Manitowoc and Green Bay, is entirely true, but it does not follow that it is the proper rate. Every one conversant with the interstate commerce commission plan of rates admits there are defects in the system. If the defects encountered are due only to a rigid adherence to the method of computation of rates, the defects should be remedied, for if the express companies can put in a rate higher than the interstate commerce commission would name, it certainly cannot be maintained that the entire scheme will fall to pieces if a rate is authorized which is lower than that body would name.

The shortest railroad mileage between Manitowoc and Green Bay is 37 miles, but the rate in question applies to the other points lying in the same sub-block as well, so that they must be considered. Examination of the situation, however, shows that such a large portion of the express business in the two sub-blocks is at these two main points that for practical purposes the business between the two sub-blocks can be considered as centered at

Green Bay and Manitowoc. Seventy-five cents is a high rate for the short distance between them. In a general way the 60 ct. belt of rates under the interstate commerce commission plan was supposed to extend out about 50 miles from the center under consideration. The placing of the rate here at 75 cts. is the result of one of the defects of the plan of the interstate commerce commission, in that it considers only distances or rather number of sub-blocks east and west and north and south, or the sum of these, and fails to take into account shorter distances on the diagonals, northwest and northeast, southwest and southeast. The shortest railroad distance from Manitowoc to Green Bay lies along one of these diagonals. As a result Green Bay falls just outside the belt of 60 ct. rates, although other stations further from Manitowoc—for example, Menasha—fall within it. Under this Commission's first order with reference to express rates (later withdrawn in order to make intrastate rates conform with interstate rates as regards the method of naming rates) the rates between Manitowoc and Green Bay would have been made by Scale No. 2, a rate of 60 cts, per 100 lb. It is not necessary to go into all the details of the manner in which this rate was computed; suffice it to say that the rate was adequate to cover all the expenses of conducting the business and leave, in addition, an amount necessary to provide a fair rate of return on the investment. In checking the rates submitted by the express companies, a modification of the interstate commerce commission method of computing rates was used, in that distances contemplated by the block and sub-block plan of rates were converted to the railroad mileage equivalents. This method gave rates between sub-blocks considerably higher in some instances and in general a trifle bit higher than did the count of sub-blocks method, but the rate between block 537, sub-block H, and block 538, sub-block O, under this method of computation would have been only 60 cts. for 100 lb. shipments. This method is considered by this Commission to be superior to the interstate commerce commission count of sub-block method, in that it permits an adjustment of rates more nearly in accordance with cost and more finely balanced as between sections of territory.

IT IS THEREFORE ORDERED, That the American Express Company discontinue its charges under Scale No. 5 for the transportation of express matter between block 537, sub-block H, and block 538, sub-block O, and substitute therefor the charges under Scale No. 2.

JOHN SCHROEDER LUMBER COMPANY

vs.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY, CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Decided Aug. 12, 1914.

Complaint was made of excess charges on a carload of lumber shipped from Ashland to Berlin, Wis., and refund asked. The shipment was made on the assumption that the rate over respondents' lines was the same as that over the lines of the M. St. P. & S. S. M. Ry. Co. and the C. M. & St. P. Ry. Co., which is a rate of 12 cts. between the points in question. The establishment of joint rates on lumber was ordered in *Wis. Retail Lbr. Dealers Ass'n v. C. & N. W. R. Co. et al.* 1909, 3 W. R. C. R. 471 and 589. The petitioner's charge in the present case was based on the sum of the local rates. The fact that a joint rate was not in effect was due to the belief that no shipments of lumber were likely to move between the points in question.

Held: The rate exacted of petitioner was unusual. A reasonable rate would have been 12 cts. per cwt. Refund ordered on that basis.

The petitioner alleges that on September 23, 1913, he shipped over respondent's lines one carload of lumber from Ashland, Wis., to Berlin, Wis., consigned to Louis Stetter, which was sold to the consignee on the assumption that the rate over respondents' lines was the same as the rate over the lines of the Minneapolis, St. Paul & Sault Ste. Marie Railway Company and the Chicago, Milwaukee & St. Paul Railway Company; that upon arrival of car at destination, the respondent Chicago & North Western Railway Company assessed a rate of 14 cts. per cwt., which was the rate of 10 cts. from Ashland to Ripon and 4 cts. from the latter point to Berlin; that the rate in effect over the lines of the Minneapolis, St. Paul & Sault Ste. Marie Railway and the Chicago, Milwaukee & St. Paul Railway between Ashland and Berlin is 12 cts. per cwt.; that the weight of said shipment was 50,600 lb.; wherefore the petitioner prays that the respondents be authorized and directed to refund to it the sum of $10.12.

The respondent railway companies filed separate answers; the material allegations in each answer deny that the charge exacted upon the aforesaid shipments was either unusual or excessive.

The claim was submitted upon the pleadings, papers and documents on file.

In *Wis. Retail Lbr. Dealers Ass'n v. C. & N. W. R. Co. et al.* 1909, 3 W. R. C. R. 471, and 589, the Commission ordered the establishment of joint through rates on lumber between points on respondents' lines. In compliance with such order each of the lines interested published tariffs naming joint rates which it was assumed would meet all the requirements of traffic movements. These tariffs, however, as originally published, provided rates only between points where shipments were likely to move and failed to provide rates between many points, including Ashland to Berlin, where it was believed there would be no movements. Additional provisions have been made from time to time so that these tariffs, as at present in effect, seemed to provide rates that are in accordance with the order between nearly all points where lumber may be expected to move. By supplement effective April 15, 1914, a rate of 12 cts. from Ashland to Berlin was published at the request of the Commission. This request was made at the instance of the petitioner. The fact that a joint rate was not effective between the points the shipment in question moved, was due, as indicated, to the belief that no shipments of lumber were likely to move between such points. Under the circumstances the petitioner is justly entitled to reparation.

We find and determine that the rate exacted of the petitioner on the aforesaid shipment is unusual, and that the reasonable rate that should have been in effect and applicable to such shipment is 12 cts. per cwt.

NOW, THEREFORE, IT IS ORDERED, That the Chicago & North Western Railway Company and the Chicago, Milwaukee & St. Paul Railway Company be and the same are hereby authorized and directed to refund to the petitioner the sum of $10.12, being the difference between the sum exacted on the aforesaid shipment and the amount based upon the rate of 12 cts. per cwt.

INDEX-DIGEST

Every point taken by the Commission has been included in the INDEX-DIGEST, whether essential to the decision or not. Wherever feasible the exact language used by the Commission, both in the *dicta* and in the decisions, has been embodied in the digest, so that for practical purposes reference back to the decision will in most cases be unnecessary.

ABANDONMENT OF TRACK OR PORTION THEREOF.

Street railways, abandonment of track or portion thereof, *see* STREET RAILWAYS, 1-2.

ABSORPTION OF CHARGES.

Switching charges, on coal, *see* RATES-RAILWAY, 43.

ACCOUNTING.

COST ACCOUNTING—ELECTRIC UTILITIES.

Determination of unit costs—Apportionment of expenses over output, capacity and consumer expenses.

1. Expenses apportioned over output and capacity expenses. *Hood et al. v. Monroe El. Co.* 227, 235.

Determination of unit costs—Apportionment of expenses over output, capacity and consumer expenses—Further apportionment among the different departments of the service.

2. Expenses apportioned over output and capacity expenses and a further apportionment made among the different classes of service. *Hood et al. v. Monroe El. Co.* 227, 235.

3. Expenses were apportioned to capacity and output and a further apportionment was made among the different departments of service. *In re Service and Rates Stevens Point Ltg. Co.* 350, 360, 365.

4. Expenses for the electric department were apportioned between capacity and output, and further apportioned between street lighting and commercial lighting. *Kittleson et al. v. Elroy Mun. W. & Lt. Plant,* 485, 492.

Determination of unit costs—Apportionment of expenses over output, capacity, and consumer expenses—Further apportionment among the different departments of the service—Capacity expenses.

5. In determining the unit cost for capacity expenses, in the instant case, the physical unit used is the active connected kilowatt. Although either the total connected load or the active connected load may be used in his connection, the latter is usually regarded as giving a truer division on the basis of use. The principle recognized by the active load

basis is that a consumer who has additional units in a room for convenience alone will not use his whole load in the same proportion as a consumer who has but a single unit. *In re Service and Rates Stevens Point Ltg. Co.* 350, 368.

Determination of unit costs—Apportionment of expenses over output, capacity, and consumer expenses—Further apportionment among the different departments of the service—Street Lighting.

6. Expenses apportioned between commercial service and street lighting. *City of Watertown v. Watertown G. & El. Co.* 604, 613.

Determination of unit costs—Apportionment of value of physical property among the different departments or branches of the service.

7. Value of property apportioned between commercial service and street lighting. *City of Watertown v. Watertown G. & El. Co.* 604, 609.

COST ACCOUNTING—JOINT UTILITIES.

Determination of unit costs—Apportionment of expenses among different plants (electric and water utilities).

8. Expenses were apportioned between the water and electric departments. *Kittleson et al. v. Elroy Mun. W. & Lt. Plant,* 485, 489.

Determination of unit costs—Apportionment of value of physical property among the different plants (electric and water utilities).

9. The physical property was apportioned between the water and electric departments. *Kittleson et al. v. Elroy Mun. W. & Lt. Plant,* 485, 489.

COST ACCOUNTING—TELEPHONE UTILITIES.

Determination of unit costs—Apportionment of value of lines involved among different exchanges.

10. An approximate valuation of the lines involved was made and apportioned among the Trego Tel. Co., the Earl Tel. Co. and the Spooner Tel. Co., the latter of which owns part of the equipment used; traffic conditions were determined as closely as possible and the annual cost of each company of the service in question was computed. *In re Appl. Trego Tel. Co.* 499, 502–503.

Determination of unit costs—Apportionment of value of physical property among the different departments of service.

11. The value of the physical property of the company was apportioned among the local, rural, toll and switching service. *In re Appl. Badger State Tel. & Teleg. Co.* 407, 412.

Determination of unit costs—Apportionment of value of physical property among different exchanges.

12. The value of the physical property of the company was apportioned between the Neillsville and Granton exchange. *In re Appl. Badger State Tel. & Teleg. Co.* 407, 413.

Determination of unit costs—Apportionment of value of physical property to show value of property used by foreign telephone utilities.

13. An apportionment of the value of physical property was made to show the value of the property used by other telephone companies. *Curtiss & Withee Tel. Co.* 419, 423–424.

COST ACCOUNTING—WATER UTILITIES.

Determination of unit costs—Apportionment of expenses over output, capacity and consumer expenses.

14. The expenses for Hurley were apportioned over output, capacity and consumer expenses. *Town of Vaughn v. Hurley W. Co.* 291, 300–303.

15. Expenses were apportioned between output, capacity and consumer expenses. *Dennett et al. v. City of Sheboygan*, 634, 642–654.

16. Expenses were apportioned among output, capacity and consumer expenses. *Hughes et al. v. Watertown Water Works*, 669, 674–689.

Determination of unit costs—Apportionment of expenses over output, capacity and consumer expenses—Further apportionment among the different departments of the service.

17. Expenses were divided between public and private service and were later further apportioned over output, capacity and consumer expenses. *In re Invest. Ashland Water Co.* 1, 55.

18. The expenses for Hurley were apportioned over output, capacity and consumer expenses and a further apportionment was made as between fire and general service. *Town of Vaughn v. Hurley W. Co.* 291, 300–303.

19. Expenses for the water department were apportioned between general service and fire service and further apportioned among capacity, output, and consumer expenses. *Kittleson et al. v. Elroy Mun. W. & Lt. Plant*, 485, 492.

20. Expenses were apportioned between output, capacity and consumer expenses, and a further apportionment was made as to fire and general service. *Dennett et al. v. City of Sheboygan*, 634, 643.

21. Expenses were apportioned among output, capacity and consumer expenses and a further apportionment was made as to general and fire service. *Hughes et al. v. Watertown Water Works*, 669, 674–689.

Determination of unit costs—Apportionment of expenses over output, capacity and consumer expenses—Further apportionment among different departments of the service—Interest, depreciation and taxes.

22. Depreciation, interest and taxes were apportioned upon the basis of the property among the different classes of service. *Hughes et al. v. Watertown Water Works*, 669, 676.

Determination of unit costs—Apportionment of the value of physical property among the different departments or branches of the service.

23. A reapportionment of the value of the property between public and private service shows that 45 per cent is fairly chargeable to the former and 55 per cent to the latter. *In re Invest. Ashland Water Co.* 1, 58.

24. In general, the fire service proportion of water works investments

in small communities such as Hurley is greater than the corresponding proportion in larger plants, and is usually more than half of the total porperty. The public, or fire hydrant, service proportion is determined upon a consideration of each part of the plant with respect to the relative capacities and costs of similar features in hypothetical separate plants for public and private service. In the instant case 53 per cent of the investment is considered chargeable to fire protection, and 47 per cent to the general service. *Town of Vaughn v. Hurley W. Co.* 291, 300.

25. A valuation was made of the physical property devoted to the service in Hurley, the property in joint use being apportioned between Hurley and Ironwood. The portion properly chargeable to Hurley was further apportioned between general and fire service. *Town of Vaughn v. Hurley W. Co.* 291, 297, 300.

26. It appears in this case that the fire service is responsible for 63 per cent and the domestic and industrial service 37 per cent of the total demand. *Hughes et al. v. Watertown Water Works*, 669, 674.

ACTIVE LOAD.

Use of active load in determining capacity expenses for electric utilities, *see* ACCOUNTING, 5.

ADVANCE IN RATES.

See RATES.

ADVANTAGE.

See DISCRIMINATION.

ALLOWANCES.

See also REBATES OR CONCESSIONS.

Allowance for free time storage, under certain conditions, *see* RATES—RAILWAY, 2–3.

Failure to make allowance for weight of car stakes, as ground for refund, *see* REPARATION, 3, 14.

Rebates or concessions, allowance to subscriber of telephone utility on account of ownership of instrument or facility, rate concession prohibited, *see* REBATES OR CONCESSIONS, 2.

on account of ownership of stock, *see* REBATES OR CONCESSIONS, 1.

Rental for equipment, paid by utility to subscriber of telephone utility, reasonable rental permitted, *see* RATES—TELEPHONE, 11.

Transit privileges, allowance of, *see* TRANSIT PRIVILEGES, 1.

ANNUNCIATORS.

Annunciators, for protection of railroad crossings, *see* RAILROADS, 12.

APPORTIONMENT.

Apportionment of expenses in determination of unit costs, *see* ACCOUNTING, 1–6, 8, 14–22.

for railway crossings among the different parties, *see* RAILROADS, 6–10.

Apportionment of value of physical property in the determination of unit costs, *see* ACCOUNTING, 7, 9–13, 23–26.

APPRAISAL.

Methods of appraisal of the property of public utilities, *see* VALUATION, 19–20.

AUTOMATIC CROSSING ALARM.

Installation of, *see* RAILROADS, 12, 13, 15, 16, 18, 24–27.

BARLEY.

See GRAIN.

BEER.

Refund on shipments, Wausau to Tomahawk and Minocqua, *see* RATES–RAILWAYS 14; REPARATION, 26.

BOLTS.

Refund on shipments, Manson and Bradley to Merrill, *see* RATES–RAILWAY, 15; REPARATION, 24.

BOOK VALUE.

As matter considered in the valuation of public utilities, *see* VALUATION, 1.

BOTTLES.

Refund on shipments, Milwaukee to Waukesha, *see* RATES–RAILWAY, 16; REPARATION, 18.

BOX SHOOKS.

Rates, refund on shipment, Marinette to Stanley, *see* RATES–RAILWAY, 17; REPARATION, 30.

BRICK.

Refund on shipments, Mayville, *see* RATES–RAILWAY, 18; REPARATION, 5.

BUCKWHEAT.

Refund on shipment denied, Trempealeau to Janesville, *see* REPARATION, 4.

CAPACITY COSTS.

As element considered in making rates for electric utilities, *see* RATES–ELECTRIC, 8.
for water utilities, *see* RATES–WATER, 10–12.

CAPACITY EXPENSES.

Apportionment of capacity expenses in determination of unit costs for electric utilities, *see* ACCOUNTING, 1–6.
for water utilities, *see* ACCOUNTING, 14–22.

CAR SERVICE.

Preference in furnishing cars, *see* DISCRIMINATION, 9, 10, 16.
Railway car service, *see* RAILROADS, 36.
Street railway car service, *see* STREET RAILWAYS, 5, 9–10.

CAR STAKES.

Failure to make allowance for car stakes as ground for refund, *see* REPARATION, 14.
Refund from charge erroneously made upon return shipment of car stakes, *see* RATES–RAILWAY, 19; REPARATION, 3.

CARETAKER.

Caretaker, duty of railroad company to employ a caretaker, *see* STATION FACILITIES, 4.

CARLOAD RATES.

See RATES–RAILWAY.

CARLOAD WEIGHTS.

See WEIGHTS.

CARRIERS.

CONTROL AND REGULATION OF COMMON CARRIERS.

Power of state to regulate charges, *see* RATES–RAILWAY.
Power of state to regulate service and facilities, *see* INTERURBAN RAILWAYS; RAILROADS; STREET RAILWAYS.

CARS.

See RAILROADS; STREET RAILWAYS.

Minimum carload weights, *see* WEIGHTS.
Preference in distribution of cars, *see* DISCRIMINATION, 9, 10, 16.

CEDAR POSTS.

See POSTS.

CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY.

For electric utilities—When granted.

1. The city of Sheboygan applies for a certificate of convenience and necessity to permit it to construct a municipal lighting plant, alleging that the lighting service furnished by the Sheboygan Ry. & El. Co. is inadequate. Since the application was filed the utility named has passed into the control of new owners who express a desire to at once install new equipment capable of furnishing adequate service to the city. The attitude of the Commission toward applications made for certificates of convenience and necessity to duplicate existing plants is well known. It rests upon the recognized fact that an existing plant can be made, under proper regulation, to give the public better service and at a lower cost than can competing plants. It requires no argument at this late day to prove that competing utilities in any municipality add to the service burdens of the public rather than lessen them. In the case under consideration there are reasons for not granting the application additional to the recognition of the general principle that two competing or noncompeting utility plants are more expensive to the public than one plant. *Held:* Under the circumstances it would be unjust to the city and unfair to the new owners of the utility to permit the city to construct a new lighing plant at this time. The application is dismissed. *City of Sheboygan v. Sheboygan Ry. & El. Co.* 215, 216.

For telephone utilities—When granted.

2. The fact that the existing telephone service is inadequate is not ordinarily sufficient to justify the issuance of a certificate of public convenience and necessity permitting a new company to enter territory already occupied and fully covered by existing companies, but recourse

should be had to the method provided by the Public Utilities Law for the correction of defects in service. *In re Appl. Sevastopol Farmers' Tel. Co.* 524, 527–528.

3. The construction, in the manner proposed by the applicants, of the line in question for telephone service, is required by public convenience and necessity. Where border territories are involved, it occasionally happens, as in the present case, that the public needs can only be satisfied by permitting a certain amount of overlapping. When such is the case, the convenience and necessity of the public itself in the matter of telephone service is the paramount consideration and the doctrine of protection for existing interests can not be carried to its full length. Ordinarily the appropriate remedy is a physical connection, the general policy of the law being usually against duplication of lines which will impair investments, and the action taken by the Commission in the present case is not to be looked upon as a precedent until a situation develops, which is similar in all respects to the present one. *In re Constr. of a Tel. line in Town of Addison, Wash. Co.* 766, 768–770.

CHANGE IN CLASSIFICATION.

See CLASSIFICATION.

CHARGES.

See DEMURRAGE CHARGES; MINIMUM CHARGES; RATES; SWITCHING CHARGES; TERMINAL CHARGES.

Storage charge, allowance for free storage period, *see* RATES RAILWAY, 2–3.

Switching charges, *see* RATES RAILWAY, 43–44, 46–47.

Transit privileges, charge for allowance of, *see* RATES–RAILWAY, 48.

CHECKING STATION.

See TELEPHONE EXCHANGE.

CHEESE BOXES.

Rates, reasonableness of, and refund, Butternut to Glover, *see* RATES–RAILWAY, 20; REPARATION, 9.

CITIES.

See MUNICIPALITIES.

CLASSIFICATION.

Rates, electric, reduction in, through re-classification, *see* RATES–ELECTRIC, 11.

Rates, refund in, due to western classification, *see* RATES–RAILWAY, 40; REPARATION, 7.

CLASSIFICATION SHEET.

See SCHEDULES OR TARIFFS.

COAL.

Absorption of switching charges on cars of coal at Green Bay, *see* RATES–RAILWAY, 43.

Rates, reasonableness of and refund, Oshkosh and Fond du Lac to Milwaukee, *see* RATES–RAILWAY, 21; REPARATION, 20.

COMMISSION.

See RAILROAD COMMISSION.

COMMODITIES.

See various commodity subject headings.

COMMODITY RATES.

See RATES–RAILWAY; also various commodity subject headings.

COMMON CARRIERS.

See CARRIERS.

COMPARISON OF RATES.

Comparative data as matter considered in determining reasonableness of railway rates, *see* RATES–RAILWAY, 12.

COMPETITION.

Competitive conditions as matter considered in determining reasonableness of railway rates, *see* RATES–RAILWAY, 8.

COMPOSITE LIFE.

Of electric plant, *see* DEPRECIATION, 5, 6.
Of water plant, *see* DEPRECIATION, 8, 9.

CONCENTRATION RATES.

See RATES–RAILWAY, 18.

CONCESSIONS.

See REBATES OR CONCESSIONS.

CONNECTING CARRIERS.

Joint or through rates, *see* RATES–RAILWAY, 4.

CONNECTIONS.

See SWITCH CONNECTIONS; TRAIN SERVICE.
Telephone lines, physical connection of, *see* TELEPHONE UTILITIES, 29–41.

CONSTRUCTION OF STATUTES

Public Utilities Law, sections construed, *see* PUBLIC UTILITIES LAW.
Railroad Law, sections construed, *see* RAILROAD LAW.
Water Power Law, sections construed, *see* WATER POWER LAW.

CONSUMER CHARGES.

See MINIMUM CHARGES.

CONSUMER COSTS.

As element considered in making rates for electric utilities, *see* RATES–ELECTRIC, 8.
for water utilities, *see* RATES–WATER, 10–12.

CONSUMER EXPENSES.

Apportionment of consumer expenses in the determination of unit costs for water utilities, *see* ACCOUNTING, 14–21.

CONVENIENCE AND NECESSITY.

See CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY.

COST ACCOUNTING.

See ACCOUNTING.

COST OF BUILDING UP THE BUSINESS.

Net cost of building up the business, as element in the valuation of public utilities, *see* VALUATION, 3–5.

COST OF REPRODUCTION.

Cost of reproduction new as matter considered in the valuation of public utilities, *see* VALUATION, 1–18.

Determination of the value of public utilities, through their cost of reproduction new, *see* VALUATION, 19–20.

COST OF SERVICE.

As element considered in making rates for electric utilities, *see* RATES–ELECTRIC, 6–10.

for railways, *see* RATES–RAILWAY, 5–6.

for telephone utilities, *see* RATES–TELEPHONE, 9.

for water utilities, *see* RATES–WATER, 9–14.

As matter considered in determining reasonableness of railway rates, *see* RATES–RAILWAY, 9.

Cost of service of electric utilities, *see* ACCOUNTING, 1–9.

of telephone utilities, *see* ACCOUNTING, 10–13.

of water utilities, *see* ACCOUNTING, 8, 9, 14–26.

CROSS CONNECTIONS.

Cross connections for water mains, *see* WATER UTILITIES, 10.

CROSS-TOWN LINES.

Establishment of.

1. The operation of continuous through service from the Twenty-second ward to the center of the city, in the manner suggested by the petitioner, would not be in accord with the best interests of the city. The development of the city has now reached the point where it is impossible for every city line to be routed to the down-town district. The existing cross-town lines should be preserved as such, and the extensions of the system to meet the needs of new territory added to the city should be accomplished by the establishment of other cross-town lines, rather than by the creation of new lines operating through the center of the city over already congested routes. However, during the rush hours, when large numbers of patrons are moving from an outlying district to the center of the city, it is only reasonable that through cars should be operated for their convenience. In addition to the present through service down town over the 27th street line via State street during rush hours, respondent should operate through cars from the Twenty-second ward to the center of the city via North avenue. It is ordered that the respondent operate through cars from the north terminus of its 27th street line to the down-town district via State street, and from the west terminus of is North avenue line of the down-town district via 8th street, during morning and evening rush hours as fixed in the Commission's former order, *In re Service of T. M. E. R. & L. Co. in Milwaukee*, 1913, 13 W. R. C. R. 178. The additional service ordered is to be in operation by September 1, 1914. *Twenty-Second Ward Advancmt. Ass'n. v. T. M. E. R. & L. Co.* 788, 792.

CROSSINGS.

See INTERURBAN RAILWAYS; RAILROADS.

DEALERS' LICENSE.

See LICENSE.

DEFINITIONS.

See specific headings.

DELAYS.

Free time allowance for delays, *see* DEMURRAGE RULES, 1.

DEMURRAGE CHARGES.

Reasonableness of demurrage charges for delays caused by infrequent mail service, or inclement weather, *see* RATES–RAILWAY, 3.
caused by failure of railroad company to properly fulfill its agreement to provide certain track facilities, *see* RATES–RAILWAY, 2; REPARATION, 34.

DEMURRAGE RULES.

Free time allowance for delays, *see also* RATES–RAILWAY, 2–3.

Free time allowance for delays.

1. There appears to be no provision in the demurrage rules of the respondent which would permit it to make any free time allowance for a delay of the kind involved in the instant case. It would seem advisable for the railway companies to amend the demurrage rules to make allowances for delays in unloading cars which are occasioned, as in the instant case, by the failure of the railway company to provide promised track facilities within the time agreed upon with shippers. *Greiling Bros. Co. v. C. M. & St. P. R. Co.* 449, 453.

DEPOTS.

See STATION FACILITIES.

DEPRECIATION.

Apportionment of depreciation in the determination of unit costs for water utilities, *see* ACCOUNTING, 22.
As element considered in making rates for electric utilities, *see* RATES–ELECTRIC, 8.
for water utilities, *see* RATES–WATER, 10.
As element in the valuation of public utilities, *see* VALUATION, 10–12.

IN GENERAL.

Failure to make allowance for depreciation.

1. The failure of a utility to make allowance for depreciation if the earnings have been sufficient is tantamount to a withdrawal of capital from the business and the cost of reproduction new must be diminished in determining the fair value upon which the reasonable return allowed is to be based when an adequate reserve for depreciation has not been provided. The utility is, however, entitled to earn an amount sufficient to offset future depreciation. In the instant case 4 per cent on the cost new is allowed as an operating expense to cover depreciation. *In re Service and Rates Stevens Point Ltg. Co.* 350, 364.

DEPRECIATION RESERVE.

Establishment of reserve.

2. The practicability of obtaining interest at an average rate of as much as 4 per cent on funds which are frequently drawn upon and added to is of sufficient doubt to lead to the assumption and use of a more conservative rate. The amounts set aside annually for depreciation must increase with the magnitude of the depreciable property, although perhaps not in exactly direct proportions. *In re Invest. Ashland Water Co.* 1, 46.

3. The matter of properly creating and maintaining a depreciation reserve requires a determination, as nearly as may be, of the rate of depreciation of the property as a whole or for each of its parts individually. This is nothing more or less than an attempt to properly anticipate the future requirements for renewals and replacements which become necessary through deterioration and decay due to climatic and soil conditions, wear and tear, accidents, etc., or through obsolescence and inadequacy. It can scarcely be contended that the predetermination of such future requirements can be made with mathematical accuracy. It must, however, be approximated as nearly as human judgment and a due consideration of the proportions of the total property included in long lived and short lived items will permit. *In re Invest. Ashland Water Co.* 1, 45, 46.

DEPRECIATION RESERVE CHARGES.

Necessity of reserve charge.

4. This utility, in common with nearly all others of its kind, has, until a very recent date, failed to maintain a depreciation reserve for the renewals and replacements which become necessary from time to time in any public utility. That such provision is necessary is now becoming generally recognized. Had such a reserve been kept by this utility from the beginning the annual reservations would, of course, have correspondingly reduced the amounts which were considered by the company as its net earnings, and would also have correspondingly increased such deficiencies as may have existed in net earnings below a fair and reasonable return on its investments. *In re Invest. Ashland Water Co.* 1, 45.

RATE OF DEPRECIATION.

Rate of depreciation of electric plant.

5. No evidence is presented as to the proper rate of depreciation. Computations of the average life of various groups of depreciable property of similar plants would indicate that allowances for what would be reasonably required every year to offset depreciation in determining the cost of service might be placed at about 1 per cent of the total cost of reproduction new in the water department, and at about 4.5 per cent of the total cost of reproduction new in the electric department. *Kittleson et al. v. Elroy Mun. W. & Lt. Plant*, 485, 491.

6. A composite rate of depreciation for the street lighting portion of the plant has been computed by the Commission on straight line and sinking fund bases. In the straight method, it is assumed that the depreciation reserve fund would earn nothing during the period of accumulation, while in the sinking fund method used in these computations it is assumed that the fund would earn 2 per cent per year. The analysis takes into consideration for each item of equipment its cost new, life in years, and scrap value. The final results show that the amount that should be reserved for depreciation on the straight line basis is 4.35 per cent of the cost of reproducing the physical property

and, on a 2 per cent sinking fund basis, 3.66 per cent. *City of Watertown v. Watertown G. & El. Co.* 604, 616.

Rate of depreciation of water plant.

7. An annual depreciation charge equal to 0.7 per cent of the entire property appears to be reasonable in the instant case. *In re Invest. Ashland Water Co.* 1, 46.

8. On the basis of reasonable assumptions as to the normal life of each part, the fair annual depreciation charge of a water utility rarely exceeds one per cent, and usually is somewhat less when the amounts appropriated out of earnings are made to earn some reasonable rate of return, as is feasible and proper. In those cases where the larger proportions of the values are in very long lived structures, or those cases showing the greatest composite life of plant, the fair annual depreciation charges are as low as one-half of one per cent. In the instant case the requirements will be somewhat nearer the upper limit than the lower one. *Town of Vaughn v. Hurley W. Co.* 291, 299.

9. No evidence is presented as to the proper rate of depreciation. Computations of the average life of various groups of depreciable property of similar plants would indicate that allowances for what would be reasonably required every year to offset depreciation in determining the cost of service might be placed at about 1 per cent of the total cost of reproduction new in the water department, and at about 4.5 per cent of the total cost of reproduction new in the electric department. *Kittleson et al. v. Elroy Mun. W. & Lt. Plant*, 485, 491.

DEVELOPMENT COSTS.

As element in the valuation of public utilities, *see* VALUATION, 3–5.

DISADVANTAGE.

See DISCRIMINATION.

DISCOUNTS.

Discounts on bonds as element in the valuation of public utilities, *see* VALUATION, 8–9.

Discounts on rates to insure prompt payment of bills for telephone service, *see* RATES–TELEPHONE, 13.

DISCRIMINATION.

AS BETWEEN CUSTOMERS.

Electric rates—Discrimination due to straight meter rates.

1. The company has been charging 13½ cts. per kw-hr. for all current sold for commercial lighting. Under such conditions the long hour user bears an unreasonable share of the capacity expenses. A flat meter rate schedule is therefore unjustly discriminatory in favor of short hour users, and in the schedule to be suggested, cognizance will be taken of the decreasing cost of service resultant from increasing daily use of a given connected load. *In re Service and Rates Stevens Point Ltg. Co.* 350, 369.

Electric rates—Discrimination due to unlimited use under maximum charge.

2. The commercial power schedule shows a possibility of unlimited use by power users at a certain maximum price per horse power which tends toward an unjust discrimination against small users. The company has recognized this fact in filing its application. A more scien-

tific rate will relieve this condition. *In re Service and Rates Stevens Point Ltg. Co.* 350, 357.

Electric rates—Necessity of reading meters regularly in order to avoid discrimination.

3. The consumption records submitted by the utility are not altogether clear but they seem to indicate that in some instances meter readings were not taken each month. There will, of course, be instances where it is impracticable to read a meter but it is important that readings be taken and bills delivered each month, wherever practicable, in order to avoid discrimination and to afford a means of detecting any defective meter or unusual condition of consumption. *In re Appl. Gilmanton Mill & El. Plant*, 152, 153.

Water rates—Different rates to customers on account of ownership of instrument or facility.

4. As the Public Utilities Law does not permit a difference in charges for like service between consumers who own their meters and those who do not, it has been necessary to include in our analysis the investment charges on the privately owned meters. The owners of those meters are legally and equitably entitled to a return of the capital charges so included, by the allowance of a meter rental which shall be deducted from the gross bill in each of such cases. The consumer's investment in a meter box or meter vault, if there be such, is not considered, as that is an expense which properly belongs to the consumer individually and not to the utility. While it is recognized that the cost of a given size or meter is not the same for all types, it is impracticable to take each separate case into account and allow for minor variations. *In re Invest. Ashland Water Co.* 1, 68.

Water rates—Minimum charge not based on size of meter.

5. The minimum charge cannot be fixed regardless of the size of meters or the consumers' demand, as that would ignore the fact that the size of the meter determines whether the investment is large or small. Discrimination results, if the minimum charge is made an average amount, against the consumers who use the small sizes. *Hughes et al. v. Watertown Water Works*, 669, 680.

Water rates—Preferential rates.

6. Under the provisions of the law no utility should make or give any undue preference or advantage to any particular consumer as has been done in the instant case or subject any consumer to any disadvantage in any respect, by means of a less rate than that named in the published schedule (sec. 1797*m*—33). *Hughes et al. v. Watertown Water Works*, 669, 681.

AS BETWEEN LOCALITIES.

Train service—Stopping of trains.

7. The fact that certain trains stop at stations of equal or less importance than a station at which they do not stop may be regarded as a discrimination, but if the latter already has reasonably adequate service and the stopping of trains at the former is done solely because of the company's reluctance to discontinue service to which its patrons have become accustomed from long usage, the practice will not be regarded as unjustly discriminatory. *Anderton et al. v. M. St. P. & S. S. M. R. Co.* 247, 248–250.

AS BETWEEN PATRONS.

Discrimination due to service arrangement for convenience of one class of patrons.

8. The petitioner alleges that the street railway service rendered by the respondent at La Crosse is inadequate and discriminatory in that it is arranged for the convenience of one class of patrons without regard to the necessities of laboring men and asks that the respondent be required to operate its cars on La Crosse street as far east as 25th street on a ten-minute schedule from 6 a. m. to 11 p. m. The respondent now operates cars on its Oak Hill-Cemetery line regularly to 18th street and during the period from May to October furnishes additional service to the golf links beyond 25th street on a schedule arranged with reference to the convenience of the patrons of the golf links, the service beginning about 9 a. m. and ending about 7 p. m. *Held:* 1. The respondent by constructing and operating its line as far east as 25th street has accepted the permissive franchise and thereby undertaken to supply street car service to that point. 2. It is the duty of the respondent to render adequate service to the full extent of its undertaking, even though such service is not remunerative, so long as the respondent assumes to operate under the permissive ordinance. The respondent is ordered to operate its cars on La Crosse street from 18th street to 25th street on the same schedule as that on which its cars are or may be operated on the remainder of its Oak Hill-Cemetery line. *Jones v. Wis. Ry. Lt. & P. Co.* 518, 523.

AS BETWEEN SHIPPERS.

Car service—Distribution of foreign cars.

9. Relative to the complaint that the petitioner was discriminated against in the distribution of cars and that it should be permitted to secure foreign cars directly from foreign companies, it may be said that permitting shippers to thus draw upon general railway equipment is not in accordance with good practice as sanctioned by legal authority. In times of car shortage the prorating of cars among shippers must include private cars as well as cars of foreign lines consigned directly to shippers. It is true that private car companies have more or less control over their equipment because of contractual relations with shippers, yet, when it comes to dealing with system cars and foreign cars the company on whose lines the freight originates should have control as far as possible of the distribution of these cars in order to prevent discrimination between shippers. Consequently, the practice of the Illinois Central Railroad Company in billing empty cars direct to shippers was discontinued, and all such cars could be made available only through the superintendent's office, which was charged with the duty of making proper distribution of cars at stations. *Colfax Produce Co. v. M. St. P. & S. S. M. R. Co.* 86, 90, 91.

Car service—Preference in furnishing cars.

10. The petitioner complains of the practice of the respondent in distributing cars to it in the month of September, 1913, for the shipment of potatoes at Colfax. The petitioner alleges (1) that the station at Colfax was not supplied with a sufficient number of cars to meet the requirements of shippers; (2) that the respondent wrongly discriminated against the petitioner in the distribution of cars; and (3) that the respondent failed to leave cars at the petitioner's warehouse a length of time sufficient for loading. The petitioner therefore prays that the respondent be required to pay to the petitioner such damages as the Commission upon investigation may determine are due the petitioner.

At the time in question there was a car shortage due to the heavy grain movement from the west. In prorating cars among shippers at a station in times of car shortage consideration must be given to the volume of business done by each shipper, the character of the commodities to be shipped, the necessity for the immediate movement of certain commodities, the climate and character of the weather, and perhaps other facts. There is no hard and fast rule by which the matter can be determined. All that the law requires is that the carrier act justly and fairly in distributing its cars. *Held:* The evidence does not sustain the petitioner's contention that the respondent in distributing its cars discriminated against Colfax as a station and against the petitioner as an individual shipper. The limitation in the length of time allowed the petitioner for loading cars at its warehouse appears, in view of the small station and limited sidetrack facilities at Colfax, to have been reasonable. The petition is dismissed. *Colfax Produce Co. v. M. St. P. & S. S. M. R. Co.* 86, 91.

Discrimination due to failure to protect an intermediate point.

11. In view of the situation disclosed upon the investigation, it is apparent that the rate exacted of the petitioner on the shipments in question was unjustly discriminatory. A rate in excess of that in effect from Bayfield to Ashland could not be justified. This is evidently conceded by the respondent. *Sprague Lbr. Co. v. C. St. P. M. & O. R. Co.* 289, 290.

Freight rates—Difference in rates not based on substantial differences in the service.

12. The petitioner alleges that the rates provided by the respondent's tariff of Jan. 1, 1914, for the transportation of logs are excessive and unjustly discriminatory against the petitioner. *Held:* Although the rates complained of are prima facie not unreasonable when the character of the service and the rates charged over other lines for a like service are considered, certain modifications in the tariff should be made to prevent the doing of injustice to the petitioner. *Wachsmuth Lbr. Co. v. Bayfield Transfer R. Co.* 253, 254, 260.

Refunds—Should be awarded to all concerned to avoid discrimination.

13. In the instant case it is impossible to determine what amount of the commodity would have moved in either form. Therefore, to award reparation upon the shipments in question would discriminate against shippers obliged to pay the regular rates during the period involved unless like reparation were also awarded to them upon demand. *Barker-Stewart Lbr. Co. et al. v. C. & N. W. R. Co.* 628, 631.

Switching rates—Green Bay.

14. The petitioners allege that the refusal of the respondent to absorb the switching charges of $2 per car on coal shipped by them to non-competitive points on the respondent's line from the tracks of the C. & N. W. Ry. Co. and the C. M. & St. P. Ry. Co. in Green Bay effects a discrimination against the petitioners by reason of the fact that competing shippers located on the respondent's tracks are not required to pay this charge. *Held:* The practice of the respondent in the present instance should be discontinued. *Barkhausen Coal & Dock Co. et al. v. G. B. & W. R. Co.* 172, 173, 174.

Switching rates—Milwaukee Terminal District.

15. In view of the provisions of sec. 1797—22.2 of the statutes the general state of industry in the Milwaukee Terminal District and other

facts brought out in the instant case, the reduction in rates asked for in behalf of shippers doing their own spotting and hauling cannot be granted for the reason that it would not operate alike upon all shippers. *In re C. M. & St. P. Switching Rates in Milwaukee*, 261, 282.

AS BETWEEN STATIONS.

Car service—Preference in furnishing cars and equipment.

16. A railway company may not discriminate against any particular station in the distribution of equipment, but must furnish each station its equitable proportion of the available equipment. No one station, however, has the right to command the entire resources of the company to the exclusion or prejudice of other stations. It is the extent of the business ordinarily done on a particular line or at a particular station which properly measures the carrier's obligation to furnish transportation. (*Ayres v. C. & N. W. R. Co.* 1888, 71 Wis. 372.) *Colfax Produce Co. v. M. St. P. & S. S. M. R. Co.* 86, 90.

AS BETWEEN SUBSCRIBERS.

Telephone rates—Different rates for stockholders and nonstockholders.

17. The law prohibits a utility from charging a different rate to stock holders than is charged to nonstockholders or renters. *In re Appl. Ettrick Tel. Co.* 405–406.

18. Unlawful to charge a lower rate to stockholders than is charged to nonstockholders. *In re Appl. Marquette & Adams County Tel. Co.* 750, 751.

Telephone rates—Discrimination due to granting rebates for repairs and ownership of equipment.

19. It appears that the proposed schedule provides a lower rate for rural subscribers owning their own telephones than for those who do not. Under the Public Utilities Law (1797*m*—90) all subscribers having the same class of service must be given the same rate. A reasonable rental, however, may be paid those subscribers owning their own equipment. The company is ordered to keep all equipment in repair and pay a rental of 15 cts. per month to all subscribers owning their telephones. *In re Appl. Mosinee Tel. Co.* 709, 710.

Telephone rates—Discrimination due to inadequate rates.

20. Two proceedings are involved in this case: (1) certain stockholders of the Eleva Farmers Tel. Co. complain that the rates charged by the company are inadequate and that stockholders are discriminated against in that they are required to pay the same rentals as other patrons and in addition contribute to cover the deficits from operation; and (2) the utility itself applies for authority to increase its rates. The value of the property, the revenues and the expenses were investigated. *Held:* The present rates are insufficient. The utility is authorized to put into effect on July 1, 1914, the schedule of rates applied for as modified by the Commission. *In re Appl. Elva Farmers' Tel. Co.* 586, 589.

Telephone rates—Discrimination due to number of calls.

21. It appears that the practice has been to make a charge of 10 cts. per call between the hours of 10 p. m. and 7 a. m. with the exception of certain subscribers, who make regular early morning calls to the depot, and who are exempted because the charges otherwise would be excessive. In order to avoid unjust discrimination it is ordered that all subscribers are to have the privilege of making early morning calls to the depot without extra charge. All other calls between the hours of 10

p. m. and 7 a. m. are to be 10 cts. per call. The respondent is authorized to discontinue its present schedule of rates and to substitute therefor the rates approved by the Commission. *In re Appl. Mosinee Tel. Co.* 709, 711, 712.

Telephone rates—Discrimination due to paying a toll charge.

22. The Ettrick Tel. Co. complains that it is unjustly discriminated against by reason of the fact that its subscribers are compelled to pay a toll charge of 15 cts. per message for service over the La Crosse Tel. Co's line between Galesville and La Crosse while the Western Wisconsin Tel. Co. is allowed to offer unlimited service over this line to its subscribers under a flat rate per year. The Western Wisconsin Tel. Co. and the La Crosse Tel. Co. appear to have an agreement by which toll messages are exchanged between the lines of the two companies and each company retains the tolls for messages originating on its own lines. The flat rate mentioned, $25 per year, covers unlimited service over the entire system of the Western Wisconsin Tel. Co. and free connection to La Crosse and to Winona, Minn. Subscribers of the Western Wisconsin Tel. Co. who pay rates of $12.50 and $15 per year, according to the class of service received by them, pay the same rates for toll service to and from La Crosse as do subscribers of the Ettrick Tel. Co. The two methods of satisfying the complaint are considered: (1) the extension of the $25 flat rate to subscribers of the Ettrick Tel. Co.; and (2) the discontinuance of the rate. It appears that the volume of the toll business passing between the Ettrick Tel. Co. and the La Crosse Tel. Co. is very small, that the offering of unrestricted service over the La Crosse Tel. Co.'s line between La Crosse and Galesville to subscribers of the Ettrick Tel. Co. under a $25 rate would lead to little use of the rate and that the discontinuance by the Western Wisconsin Tel. Co. of the $25 rate would be of no benefit to the Ettrick Tel. Co. *Held:* The rates complained of are not unjustly discriminatory and the Ettrick Tel. Co. is not burdened unjustly because of their existence. The complaint is dismissed. *Ettrick Tel. Co. v. Western Wisconsin Tel. Co. et al.* 180, 185.

DISTANCE TARIFF RATES.

See RATES–RAILWAY.

DUPLICATION OF EQUIPMENT

Electric utilities, application for certificate of public convenience and necessity, *see* CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY, 1.

Telephone utilities, duplication of equipment of established utility not ordinarily the remedy for excessive rates or inadequate service, *see* TELEPHONE UTILITIES, 2, 7–8.

extension of lines into municipalities in which another utility is already engaged in furnishing local service, *see* TELEPHONE UTILITIES, 3, 12–13.

ECONOMIES IN OPERATION.

As element considered in making rates for electric utility, *see* RATES–ELECTRIC, 6.

ELECTRIC RAILWAYS.

See INTERURBAN RAILWAYS; STREET RAILWAYS.

ELECTRIC RATES.

See RATES–ELECTRIC.

ELECTRIC SIGNALS.

Installation of, *see* RAILROADS, 12, 13, 15, 16, 18, 24–27.

ELECTRIC UTILITIES.

Certificates of public convenience and necessity, *see* CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY, 1.

Cost of service of electric utilities, determination of unit costs, *see* ACCOUNTING, 1–9.

Depreciation, rates of depreciation of electric plant, *see* DEPRECIATION, 5, 6.

Discrimination, as between customers of electric utility, *see* DISCRIMINATION, 1–3.

Minimum charges for electric utilities, *see* MINIMUM CHARGES, 1–9.

ACCOUNTING.

See ACCOUNTING.

OPERATION.

Management—Financial transactions.

1. The utility secures its power from the Stevens Point Power Co., but inasmuch as the utility is the sole customer of the power company and the two companies have identical personnels of owners and executives, it appears, that the companies are but nominally separate entities. *In re Service and Rates Stevens Point Ltg. Co.* 350, 352.

Operating records.

2. The keeping of a daily station-log sheet is of primary importance. Such a sheet should furnish a daily record of output for different classes of service and should also indicate the demands made upon the plant at frequent intervals. These data are essential if the utility professes to return a complete and adequate annual report to the Commission. *In re Service and Rates Stevens Point Ltg. Co.* 350, 355.

Physical data.

3. The Commission demands that certain physical data be submitted in the annual report of the utility. These data are required not only for computation of unit costs, publication of which is prescribed by law, but also for rate investigation purposes when the occasion arises. As a basis for unit costs of service the physical data are highly important, for only through such units can a comparison of all utilities be obtained. In a rate investigation, the accuracy of expense apportionments depends largely on the correctness of physical data on hand. *In re Service and Rates Stevens Point Ltg. Co.* 350, 360.

Requirements as to service and facilities—Adequacy of service

4. The city of Sheboygan applies for a certificate of convenience and necessity to permit it to construct a municipal lighting plant, alleging that the lighting service furnished by the Sheboygan Ry. & El. Co. is inadequate. Since the application was filed the utility named has passed into the control of new owners who express a desire to at once install new equipment capable of furnishing adequate service to the city. *Held:* Under the circumstances it would be unjust to the city and unfair to the new owners of the utility to permit the city to construct a new lighting plant at this time. The application is dismissed. *City of Sheboygan v. Sheboygan Ry. & El. Co.* 215, 216.

5. The activities of an electric plant may be said to be two-fold. In addition to the ordinary function it performs in rendering actual service, each electric plant must stand ready to supply, in theory at least,

an amount equal to the total connected load. In practice, however, the actual demand made upon the plant will not be as high as the connected load, due to the diversity of use made of the current supplied. The highest actual demand to which this so-called activity is subjected is known as the maximum demand or peak load. The distinction between the two activities is expressed by the load factor, or percentage of actual generation to the maximum possible generation under continuous operation at the maximum demand figure. *In re Service and Rates Stevens Point Ltg. Co.* 350, 365.

6. In towns where there are a multitude of larger consumers having a wide diversity of use, a utility need not keep its capacity near the sum of the different connected loads on the system. A smaller plant, similar to that at Stevens Point, must, however, be constantly ready to serve the two or three larger consumers at the same time. This necessitates that the plant capacity must more nearly approach the total connected load than the capacity of a plant whose consumers have a greater diversity of use. *In re Service and Rates Stevens Point Ltg. Co.* 350, 374, 375.

7. With respect to the matter of service, it appears that the utility has at no time fully complied with the rules of the Commission concerning standards of service. The utility has failed specifically to comply with the rules prescribed in *In re Standards for Gas and Electric Service*, 1913, 12 W. R. C. R. 418, for the making of periodic tests of gas and electric meters and the keeping of records of such tests, the keeping of station records and the control of voltage variation in electric utilities. The utility has, however, largely removed the main causes of complaint, voltage variation and "line drop," by the rehabilitation of its distribuiton system. *Held:* Although the utility has improved conditions in its effort to comply with service regulations, its compliance with these regulations is still unsatisfactory with respect to the making of meter tests and the keeping of the records of these tests. The utility is ordered: (1) to conform within sixty days to the service rules which it has been violating and to all others set forth in *In re Standards for Gas and Electric Service*, 1913, 12 W. R. C. R. 418. *In re Service and Rates Stevens Point Ltg. Co.* 350, 378.

Requirements as to service and facilities—Adequacy of service—Use of electric flatirons prohibited under certain conditions.

8. The representative of the utility suggested a rule permitting users of flatirons to have service during the summer months for one forenoon of each week, and to forbid the use of flatirons in the forenoon during the winter. Although this may not be very convenient to the users of flatirons it appears to be almost necessary for the satisfactory operation of the plant. In a town of less than 300 inhabitants it is hardly to be expected that the same service will be available as can be secured in larger places. In furnishing all-night service the utility is doing more than is done in many larger places and a necessary restriction of the use of irons and of all-night lights will be approved. *In re Appl. Gilman Mill & El. Plant*, 152, 155.

Requirements as to service and facilities—Appliances for the measurement of product or services—Utility exempt from duty of supplying meters in particular cases.

9. The Gilmanton Mill and El. Plant applies (1) for authority to increase its rates by the adoption of such a schedule as the Commission may deem reasonable and just, and (2) to be relieved from the necessity of supplying meters free of cost to consumers, until such time as the financial condition of the utility will permit it to own and furnish me-

ters. The utility furnishes continuous service, except for a few hours each day when a storage battery used in connection with a hydraulic generator is being charged, and it appears that some of the flat rate consumers permit their lamps to remain turned on at all times. All consumers on a metered basis have furnished their own meters. Accurate records of the operating expense of the plant are not available. The representative of the utility expressed his willingness to discontinue the practice of requiring consumers to furnish meters and to acquire meters now in use as soon as the financial condition of the plant would warrant such action. This would require an investment of several hundred dollars and would have its effect upon the amount required by the utility to provide for interest and depreciation. In view of the fact that there is some question as to whether the revenues resulting from the present rate will be adequate to meet the needs of the plant, we believe it would not be advisable to require the utility to increase its investment by acquiring meters in use or by furnishing those to be installed in the future. The ultimate cost to the consumer will be about the same in either case, unless the ownership of meters makes it necessary for the plant to operate at a loss, but it appears that the interest of all parties concerned will be better served by requiring consumers to continue to supply their meters than by having the utility supply them and charge a necessarily higher rate for current. The utility may require all consumers using electric fans or other power devices to install meters at their own expense. *In re Gilmanton Mill & El. Plant*, 152, 154, 156.

RATES.

See RATES–ELECTRIC.

VALUATION.

See VALUATION.

EQUIPMENT RENTAL.

Telephone utilities, rental for equipment.

Paid by utility to subscriber, reasonable rental permitted, *see* RATES–TELEPHONE, 11.

Water utilities, rental for equipment.

Paid by utility to consumer, reasonable rental permitted, *see* RATES–WATER, 18, 21, 28.

EXCELSIOR.

Refund on shipment, Rice Lake, to Ft. Atkinson, *see* RATES–RAILWAY, 22; REPARATION, 25.

Rice Lake to Superior, see RATES–RAILWAY, 23; REPARATION, 32.

EXORBITANT RATE.

See RATES.

EXPENSES.

Apportionment of expenses, *see* ACCOUNTING, 1–6, 8, 14–22.

EXPRESS RATES.

See RATES–EXPRESS.

EXTENSIONS.

Extensions or additions to street railways, *see* STREET–RAILWAYS, 3.
Extension of telephone lines, *see* TELEPHONE UTILITIES, 4–26.
Extension of water mains, *see* WATER UTILITIES, 1, 11.

FARES.

See RATES.

FENCE POSTS.

See POSTS.

FINANCIAL MANAGEMENT.

Financial transactions in the management of electric utility, *see* ELECTRIC UTILITIES, 1.
of water utility, *see* WATER UTILITIES, 2.

FIRE PROTECTION.

Adequacy of fire protection, *see* WATER UTILITIES, 5–6.
Apportionment of expenses between fire and general service in the determination of unit costs for water utilities, *see* ACCOUNTING, 17–21.
Apportionment of value of property between fire and general service in the determination of unit costs for water utilities, *see* ACCOUNTING, 23–26.

FIRE PROTECTION RATES.

Fire protection rates for water utilities, *see* RATES–WATER, 1–4.

FIXED EXPENSES.

Apportionment of fixed or capacity expenses, *see* ACCOUNTING, 1–5, 14–21.

FLAGMAN.

Flagman, for protection of railroad crossing, *see* RAILROADS, 11–13, 15–16, 29.

FLATIRONS.

Use of electric flatirons prohibited under certain conditions, *see* ELECTRIC UTILITIES, 8.

FLAT RATES.

For electric utility, *see* RATES–ELECTRIC, 1–4.
For water utility, *see* RATES–WATER, 5–7.

FOOTPATH.

Construction of footpath parallel to railway line, *see* RAILROADS, 22.

FRANCHISES.

Duty of street railway to furnish adequate service so long as it assumes to operate under permissive franchise, *see* STREET RAILWAYS, 5.

Amended by Public Utilities Law.

1. The city reserved the right to establish a lighting plant of its own at the end of ten years, and by the terms of the franchise, the city was given an option to lease space for arc lighting wires on the company's poles. This municipal franchise is set aside by the Public Utilities Law and is superseded by an indeterminate permit of the state. It is under the provisions of this act and this permit that the petitioner brings these proceedings. *City of Watertown v. Watertown G. & El. Co.* 604, 605.

FREE OR REDUCED RATE SERVICE.

Discrimination due to free or reduced rate service, *see* DISCRIMINATION, 4, 6.

Free or reduced rate service for water utilities, *see* RATES–WATER, 8.

FREE STORAGE PERIOD.

Extension of free storage time, *see* DEMURRAGE RULES, 1; RATES–RAILWAY, 2–3.

FREIGHT RATES.

See RATES–RAILWAY.

FREIGHT SERVICE.

See TRAIN SERVICE.

FUEL OIL.

Refund on shipment, Mayville to West Allis, *see* RATES–RAILWAY, 24; REPARATION, 33.

FUEL WOOD.

See WOOD.

GAS UTILITIES.

OPERATION.

Requirements as to service and facilities—Adequacy of service.

1. With respect to the matter of service, it appears that the utility has at no time fully complied with the rules of the Commission concerning standards of service. The utility has failed specifically to comply with the rules prescribed in *In re Standards for Gas and Electric Service*, 1913, 12 W. R. C. R. 418, for the making of periodic tests of gas and electric meters and the keeping of records of such tests, the keeping of station records and the control of voltage variation in electric utilities. The utility has, however, largely removed the main causes of complaint, voltage variation and "line drop," by the rehabilitation of its distribution system. *Held:* Although the utility has improved conditions in its effort to comply with service regulations, its compliance with these regulations is still unsatisfactory with respect to the making of meter tests and the keeping of the records of these tests. The utility is ordered: (1) to conform within sixty days to the service rules which it has been violating and to all others set forth *In re Standards for Gas and Electric Service*, 1913, 12 W. R. C. R. 418. *In re Service and Rates Stevens Point Ltg. Co.* 350, 378.

GOING VALUE.

As element in the valuation of public utilities, *see* VALUATION, 3–5.

GRADE CROSSINGS.

See INTERURBAN RAILWAYS; RAILROADS.

GRAIN.

Refund on shipment, Milwaukee to Cudahy, *see* RATES–RAILWAY, 13; REPARATION, 29.

GROUND LIMESTONE.

See LIMESTONE.

GUARD RAILS.

Guard rails, for protection of railroad crossing, *see* RAILROADS, 21.

HAY.

Refund on shipment, Osceola to Rhinelander, *see* RATES–RAILWAY, 28; REPARATION, 17.

HEATING APPLIANCES.

See RATES–ELECTRIC.

HIGHWAYS.

Crossing by railroads, *see* RAILROADS, 1–35.
Relocation of highway, *see* RAILROADS, 17–18, 33–34.

HYDRANT RENTALS.

See RATES–WATER.

ILLUMINATED SIGN.

Installation of , for protection of railway crossing, *see* RAILROADS, 13, 16, 18, 24–26.

INCIDENTAL OR SMALL POWER APPLIANCES.

See RATES–ELECTRIC, 5.

INDETERMINATE PERMIT.

See FRANCHISES.

INDUSTRIAL TRACKS.

See SWITCH CONNECTIONS.

INTANGIBLE VALUE.

See VALUATION.

INTEREST.

Apportionment of interest in the determination of unit costs for water utilities, *see* ACCOUNTING, 22.
As element considered in making rates for electric utilities, *see* RATES–ELECTRIC, 8.
for water utilities, *see* RATES–WATER, 10.

INTERSTATE COMMERCE.

Stopping of interstate trains, when an interference with interestate commerce, *see* TRAIN SERVICE, 10.

INTERURBAN RAILWAYS.

See also STREET RAILWAYS.

OPERATION.

Requirements as to service and facilities—Adequacy of service —Relocation of line.

See STREET RAILWAYS, 8.

Requirements as to service and facilities—Stopping of cars.

1. Complaint was made that the petitioners, owners of summer cottages near Lake Winnebago, between Waverly Beach and Brighton Beach, stations on respondent's interurban line, cannot conveniently reach those stations without trespassing upon respondent's right of way, which is forbidden, and the Commission was asked to require the respondent to stop its cars on signal at petitioner's cottages. It appeared that in order to reach the stations in question the petitioners were obliged to resort to the dangerous practice of walking along respondent's tracks, or follow a footpath which is almost impassable except during dry weather. The point at which the stop was requested is about 1,700 feet from Waverly Beach station, approximately midway between the two stations involved, and so located that a stop will probably be needed there in the future if the development of the section continues. It also appeared that there was no serious operating objection to the establishment of a flag stop at the point in question, and that stops were in fact being made at other points where only two or three families were involved. *Held:* To deny the service requested would be unreasonable under the circumstances of the present case. The respondent is ordered to stop its interurban cars to receive and discharge passengers at a point approximately 1,700 feet west of Waverly Beach station. *McKenney et al. v. Wisconsin Tr. L. H. & P. Co.* 811, 813.

JOINT RATES.

See RATES–RAILWAY, 4.

JOINT USE.

Telephone utilities, adjustment of rates upon physical connection, *see* RATES—TELEPHONE, 2.

physical connection, terms and conditions of joint use, *see* TELEPHONE UTILITIES, 39–40.

JURISDICTION.

See RAILROAD COMMISSION.

LAUNDRY.

Reasonableness of express rates, between Manitowoc and Green Bay, *see* RATES–EXPRESS, 1.

LICENSE.

ISSUE BY COMMISSION OF LICENSE TO DEAL IN SECURITIES.

Issue of license in particular cases.

1. The Grieb & Greene Co. of Milwaukee apply for a license to deal in securities as provided in ch. 756, laws of 1913. F. W. Snook & Co. of Milwaukee enter protest against the granting of the application, alleging in effect that the applicant is not qualified to receive such a license. Although not required by law in a case of this kind, a hearing was held for the purpose of obtaining sworn testimony. *Held:* The testimony does not disclose any transactions between the applicant and its customers, or any other dealings of the applicant which would justify the Commission in refusing to grant it a dealer's license in accordance with the provisions of ch. 756, laws of 1913. A license will therefore be issued. *In re Appl. Grieb & Greene Co. for a Dealers' License*, 140, 143.

Public hearing—Statutory requirements as to holding of.

2. The Commission is not required by statute to hold a public hearing for the purpose of investigating the qualifications of an applicant for a

dealers' license, but in view of the nature of the protest and the allegations made in the instant case, it was deemed advisable in this particular case to hold such a hearing in order to obtain sworn testimony upon which to determine the merits of the application. *In re Appl. Grieb & Greene Co. for a Dealers' License*, 140, 141.

LIFE OF PUBLIC UTILITY PLANT.

See DEPRECIATION, 5, 8–9.

LIMESTONE.

Refund on shipment, ground limestone, Waukesha to Black River Falls, *see* REPARATION, 21.
ground limestone, Waukesha to Durand, *see* RATES–RAILWAY, 27; REPARATION, 22.

LIMITED OR "OFF PEAK" SERVICE.

See RATES–ELECTRIC, 19.

LOAD FACTOR.

Load factor, definition of, *see* ELECTRIC UTILITIES, 5.

LOADING OF CARS.

Length of time allowed by railway company.

1. The limitation in the length of time allowed the petitioner for loading cars at its warehouse appears, in view of the small station and limited sidetrack facilities at Colfax, to have been reasonable. *Colfax Produce Co. v. M. St. P. & S. S. M. R. Co.* 86, 89.

LOCAL RATES.

See RATES–RAILWAY.

LOGS.

Rates.

Reasonableness of rates and minimum weight, Sunnyside to Bayfield, *see* RATES–RAILWAY, 31, 32.
Wis. points on the C. & N. W. R., *see* RATES–RAILWAY, 35.
Reduction of joint rates on logs, between Van Buskirk and Carson to Superior, *see* RATES–RAILWAY, 33.
Unreasonableness of switching rates, Rhinelander, see RATES–RAILWAY, 44.

Refund on shipment.

Bayfield to Washburn, *see* RATES–RAILWAY, 29; REPARATION, 15.
Grandview to Cumberland, *see* RATES–RAILWAY, 30; REPARATION, 27.
Rhinelander, *see* RATES–RAILWAY, 44; REPARATION, 11.
Wis. points on the M. St. P. & S. S. M. R. to Ashland, *see* RATES–RAILWAY, 44; REPARATION, 14.

Refund on shipment denied.

Wis. points on the C. & N. W. R. to Peshtigo, *see* REPARATION, 12.

LONG DISTANCE RATES.

See RATES–TELEPHONE.

LUMBER.

Reasonableness of rates and refund on shipment, Cotton to Rhinelander, *see* RATES–RAILWAY, 37; REPARATION, 28.
Refund on shipment, Ashland to Berlin, *see* RATES–RAILWAY, 36; REPARATION, 23.
Switching charges, refund on shipment, Hawkins, *see* RATES–RAILWAY, 38; REPARATION, 6.

MAKING RATES.

See RATES.

MANAGEMENT.

Wages of management as element considered in making rates for electric utilities, *see* RATES–ELECTRIC, 10.

MATERIALS AND SUPPLIES.

Relation of materials and supplies to interest and profits, *see* RATES–ELECTRIC, 7.

MAXIMUM RATES.

See RATES–ELECTRIC, 34–35.

METERS.

Discrimination in rates on account of ownership of meters, prohibited under Public Utilities Law, *see* DISCRIMINATION, 4.
Duty of utility to provide meters, *see* WATER–UTILITIES, 7.
to repair meters, *see* WATER UTILITIES, 8.
Electric utility, charge for installing meters, *see* RATES—ELECTRIC, 31.
Meter rental paid by utility, *see* RATES–WATER, 18, 21, 28.
Utility exempt from duty of supplying meters in particular cases, *see* ELECTRIC UTILITIES, 9; WATER UTILITIES, 9.
Utility may require customers using electric fans or other power devices to install meters at their own expense in particular cases, *see* ELECTRIC UTILITIES, 9.

MILLING IN TRANSIT RATES.

See RATES–RAILWAY.

MINIMUM CARLOAD WEIGHTS.

See WEIGHTS.

MINIMUM CHARGES.

ELECTRIC UTILITIES.

Reasonableness of advance in electric rates in particular cases, minimum charges, *see* RATES–ELECTRIC, 23–24.

Determination of minimum charge.

1. The cost which is properly chargeable as a consumer expense is not the only item which should be considered in determining the minimum charge. The effect upon the business must also be taken into consideration, and in this case we believe that a $1 minimum charge would be inadvisable. It is evident, however, that some minimum charge should be put in, and we believe that a charge of 75 cts. per month will be a proper one. *In re Appl. McGowan W, Lt. & P, Co.* 325, 327.

Establishment of minimum charges in particular cases.

2. The McGowan W. Lt. & P. Co. applies for authority to put into effect a minimum monthly charge of $1 for electric service for which, up to the present, the utility has had no minimum charge. The utility is operating at a loss. *Held:* Although a minimum charge of $1 per month would not produce an excessive amount of revenue, such a charge is inadvisable because of its probable effect on the business of the utility. The utility is authorized to put into effect a minimum monthly charge of 75 cts. which is considered sufficient to insure the utility against actual losses arising from carrying the accounts of individual consumers. *In re Appl. McGowan W. Lt. & P. Co.* 325, 328.

3. The Milton W. Lt. & P. Co. applies for authority to put into effect a minimum charge of 75 cts. per month for electric current. At present the utility makes no minimum charge. Investigation of the revenues and expenses shows that the utility, which started operation March 1, 1912, is still operating under a deficit. *Held:* The application is a reasonable one. The applicant is therefore authorized to put into effect a minimum monthly charge of 75 cts. *In re Appl. Milton W. Lt. & P. Co.* 206, 207.

Purpose of minimum charge.

4. The total increase in revenue resulting from a 75 ct. minimum charge will not be large, but the minimum charge can hardly be expected to make up to any great extent the deficits from operation. It should, however, under normal conditions, meet the fixed consumer costs and provide for a payment for the average use of current falling within the minimum. A charge of 75 cts. per month will, we believe, accomplish these purposes, in the instant case. It will not add very much to the revenue of the utility, but it will insure the utility against actual losses in carrying the accounts of individual consumers. *In re Appl. McGowan W. Lt. & P. Co.* 325, 327, 328.

5. The justice of a minimum charge has been repeatedly upheld. In order that the company may be adequately recompensed for its readiness to serve certain large installations which at certain seasons may use very little current, a minimum bill based on the size of the active horse power connected has been deemed advisable in this case. In towns where there are a multitude of larger consumers having a wide diversity of use, a utility need not keep its capacity near the sum of the different connected loads on the system. A smaller plant, similar to that at Stevens Point, must, however, be constantly ready to serve the two or three larger consumers at the same time. This necessitates that the plant capacity must more nearly approach the total connected load than the capacity of a plant whose consumers have a greater diversity of use. Under these conditions the utility must be allowed to charge the consumer an amount conmmensurate with the size of the installation. *In re Service and Rates Stevens Point Ltg. Co.* 350, 369, 374–375.

Reasonableness of minimum charge.

6. The Milton W. Lt. & P. Co. applies for authority to put into effect a minimum charge of 75 cts. per month for electric current. At present the utility makes no minimum charge. Investigation of the revenues and expenses shows that the utility, which started operation March 1, 1912, is still operating under a deficit. In some cases the Commission has recommended the adoption of a minimum charge of less than 75 cts. but from a consideration of all the facts available in this case, we believe that the application for authority to put in a minimum charge of 75 cts. per month is a reasonable one. The data available do not show how many consumers would be affected by such a minimum, but it seems evident that the total increase in revenue will be rather small.

Held: The application is a reasonable one. The applicant is therefore authorized to put into effect a minimum monthly charge of 75 cts. *In re Appl. Milton W. Lt. & P. Co.* 206, 207.

7. As far as the total revenues of the utility are concerned, it is clear that a minimum charge of $1 per month will not produce an excessive amount of revenue. A minimum charge very much higher than $1 a month would in fact fail to make up the deficit. It appears to be impracticable to attempt to any considerable extent to increase the total revenues of the utility by means of a minimum charge. Consequently the question of the authorization of a minimum charge of $1 should be decided with reference to the reasonableness of that particular charge rather than with reference to the total revenues of the utility, although this latter is also an item to be considered. *In re Appl. McGowan W. Lt. & P. Co.* 325, 327.

8. The question of the authorization of a given minimum charge should be decided with reference to the reasonableness of that particular charge rather than with reference to the total revenues of the utility, although the latter should also be considered. *In re Appl. Browntown Mun. Lt. Plant*, 560, 564.

9. The reasonableness of a carefully adjusted minimum charge, to cover certain fixed expenses of furnishing service, has been fully explained in other decisions, and no repetition of the arguments is necessary. *In re Appl. Richland Center El. Lt. & W. Plant*, 590, 591.

WATER UTILITIES.

Reasonableness of advance in water rates in particular cases, minimum charges, *see* RATES–WATER, 22.

Determination of minimum charge.

10. As practically every consumer paying the minimum bill has used considerable water during the period and hence incurred some output expenses, the minimum bill to be charged must include an allowance for this consumption. If this is not done all water used would really be received free of charge. By computing taxes, depreciation and interest on the value of the meter, adding thereto proper maintenance charges and a fair allowance for water used, a minimum charge can be determined with considerable accuracy that will guarantee to the company its consumer expenses. The minimum charge, however, cannot be fixed regardless of the size of meters or the consumer's demand, as that would ignore the fact that the size of the meter determines whether the investment is large or small. Discrimination results, if the minimum charge is made an average amount, against the consumers who use the small sizes. *Hughes et al. v. Watertown Water Works*, 669, 680.

MINIMUM LOADING REQUIREMENT.

See WEIGHTS.

MINIMUM RATES.

See RATES; *also* MINIMUM CHARGES.

MINIMUM WEIGHTS.

See WEIGHTS.

MUNICIPAL OWNERSHIP.

Effect of.

1. If the city owned the water works it is possible that, by pledging all of its taxable property as well as its powers of taxation, the city could have obtained the capital required for the construction of the

water works at a somewhat lower rate of interest than the rate at which the capital for the present plant was obtained. It is also possible that the city in operating its own plant could keep down the executive salaries to a slightly lower figure than the salaries now paid by the existing company. When it comes to the remaining expenses that enter into the cost of the service, however, the situation in this respect is likely to be reversed. While municipal operation is more successful in the cost of water works than in the case of other public utilities, it is more than likely that the increase in the other operating expenses under such operation would fully offset the decrease in the fixed charges. These statements are especially true in cases where as much is demanded in the way of facilities and service of municipally owned as of privately owned plants. The tendency to demand more in the way of service in the latter case, however, is in most places quite marked, and this of course has a material effect upon the expenses. If the city, in obtaining capital for the plant, had pledged the property of the plant only, it is quite certain that it could not have obtained this capital at a lower cost than that for which the present owners obtained their capital. *In re Invest. Ashland Water Co.* 721, 736, 737.

MUNICIPALITIES.

Abandonment of any line of street railway, common council has exclusive jurisdiction to authorize, *see* STREET RAILWAYS, 1–2.

NAVIGABLE WATERS.

Jurisdiction of Commission over obstructions in navigable streams, *see* RAILROAD COMMISSION, 12.

REGULATION OF LEVEL AND FLOW OF WATER.

Obstructions in stream.

1. Complaint is made against the maintenance of certain piles, piers, walls and other obstructions constructed by private persons in and over the Rock river in the city of Janesville. The complainant alleges that these obstructions interfere with navigation; that they have seriously damaged the complainant; that they are a constant menace to the safety of the general public, to the property rights of the owners of property on the banks of the river in general and to those of the complainant in particular; and that their maintenance is in violation of sec. 1596 of the statutes; and asks that the Commission investigate the conditions set forth and report upon them to the governor as required by the section cited. The obstructions mentioned in the petition refer chiefly to buildings which stand within the river boundaries on piles and piers abutting the Milwaukee street bridge and the Court street bridge and the filling in for foundations on the west side of the stream in Janesville. A survey of the Rock river in Janesville was made and soundings were taken to ascertain the probable effects of the obstructions in question in case of floods. It is conceded that none of the structures of which complaint is made, with one exception, were placed or maintained in the river under legislative authority, but it is contended on the part of property owners that, notwithstanding this fact, these structures are not nuisances and that they therefore cannot be removed at the instance of the state or of any private citizen. *Finding:* 1. That Rock river in the city of Janesville is a navigable stream. (2) That the river is navigated by rowboats, motorboats, and other water craft. (3) That the piers and other structures delineated upon the map on file at the office of the Commission constitute obstructions to navigation and to the natural flow of the water in the stream and have a tendency to narrow the channel of the stream. (4) That in case of very high water, logs, lumber, wood and drift coming down the stream are likely to lodge

against such obstructions, preventing the free passage of the water through the natural channel and thereby causing injury and damage to property within the city of Janesville. The legality of the maintenance of the obstructions in question is not passed upon. *In re Obstructions in the Rock River at Janesville*, 190, 203.

2. The petitioner complains that a building constructed in 1910 by the Masonic Temple Association over and completely across the Beaver Dam river in the city of Beaver Dam obstructs the natural flow of water in the river and the free use of the river and in case of high water, obstructs and sets back the water in the river, to the great damage of the petitioner. The petitioner owns several lots of land located at the outlet of Beaver Dam Lake into the Beaver Dam river and a dam known as the Cotton Mill dam, which is constructed upon this property and used by the petitioner in developing water power. The building in question and certain other buildings are located in whole or in part over the Beaver Dam river between the petitioner's dam and another dam farther down stream, known as the Upper Woolen Mill dam. The construction of the latter dam some time prior to 1845 greatly increased the width of the stream through the overflowing of adjoining land, but the riparian owner, evidently assuming that the submerged land outside the banks of the original stream still belonged to him, in conveying his land to various purchasers granted the right to extend structures over the submerged land for a distance of 30 feet, although not to the banks of the original stream. Since then no regard has been given to the stream as a public thoroughfare. *Finding:* 1. The Beaver Dam creek or Beaver Dam river in the city of Beaver Dam between the Upper Woolen Mill dam and the Cotton Mill dam is a navigable stream. 2. The stream is navigated by small boats used for fishing and pleasure, and for the repairing of buildings which extend over the submerged land. 3. The buildings encroaching upon the stream as indicated upon the map contained in the record herein constitute obstruction to such navigation. The legality of the maintenance of the obstruction in question is not passed upon. *In re Petition Paramount P. & Realty Co.* 474, 480.

NON-DUPLICATION.

See DUPLICATION OF EQUIPMENT.

NON-RUSH PERIODS.

Street railways, requirements as to service and facilities, adequacy of service, through service during non-rush periods, *see* STREET RAILWAYS, 10.

NONSUBSCRIBERS.

Toll charge exacted due to over-use of telephone facilities by nonsubscribers, *see* RATES—TELEPHONE, 3.

OBSTRUCTIONS IN STREAM.

See NAVIGABLE WATERS, 1–2.

OBSTRUCTIONS TO VIEW.

Removal of obstructions to view for protection of railway crossings, *see* RAILROADS, 15, 19, 20, 32.

"OFF PEAK" OR LIMITED SERVICE.

See RATES—ELECTRIC, 19.

OPERATING RECORDS.

Importance of operating records, *see* ELECTRIC UTILITIES, 2.

OPERATION OF TRAINS.

See TRAIN SERVICE.

OUTPUT COSTS.

As element considered in making rates for electric utilities, *see* RATES–ELECTRIC, 8.
for water utilities, *see* RATES–WATER, 10–12.

OUTPUT EXPENSES.

Apportionment of output expenses in determination of unit costs for electric utilities, *see* ACCOUNTING, 1–4.
for water utilities, *see* ACCOUNTING, 14–21.

OUTSIDE CONSUMERS.

Rates for outside consumers of a municipal utility.

1. Consumers of a municipally owned utility who are located outside the limits of the municipality stand in much the same relation to the utility as they would if it were a private enterprise, and so long as the rate charged them is fair, they cannot complain of discrimination against them merely because that rate is slightly higher than the rate charged residents of the municipality. *In re Appl. Richland Center El. Lt. & W. Plant*, 590, 592.

OVERCHARGES.

See REPARATION.

OVERHEAD EXPENSES.

Overhead expenses during construction as element in the valuation of public utilities, *see* VALUATION, 13–14.

PARTIAL METERING.

Water utility, partial metering recommended, *see* RATES–WATER, 20.

PASSENGER SERVICE.

See TRAIN SERVICE.

PASSENGERS.

Station accommodations, *see* STATION FACILITIES.
Train service, *see* TRAIN SERVICE.

PAVING.

Allowance for cost of paving in the valuation of property of public utilities, when the cost was not actually incurred, *see* VALUATION, 6.

PEAS.

See SEED PEAS.

PENALTIES.

Regulation as to payment of rates for services rendered by public utility, provision for penalties, *see* RATES–WATER, 28.

PHYSICAL CONNECTION.

Telephone utilities.

Physical connection, establishment of, conditions precedent, *see* TELEPHONE UTILITIES, 29.
establishment of, in particular cases, *see* TELEPHONE UTILITIES, 21, 30–34.
establishment of protection of property rights, *see* TELEPHONE UTILITIES, 35.
establishment of, statutory requirements, *see* TELEPHONE UTILITIES, 36–38.
terms and conditions of joint use, *see* TELEPHONE UTILITIES, 39–40.

PHYSICAL DATA.

Physical data, importance of, *see* ELECTRIC UTILITIES, 3.

PHYSICAL PROPERTY.

As element in the valuation of public utilities, *see* VALUATION, 6–18.
Determination of the value of physical property of public utilities, *see* VALUATION, 19–20.

POSTS.

Refund on shipment, Taylor Rapids to Peshtigo, *see* RATES–RAILWAY, 39; REPARATION, 16.
Refund on shipment of mixed carload of fence posts and fuel wood, Arpin to Neenah, *see* RATES–RAILWAY, 26; REPARATION, 19.

POWER RATES.

See RATES–ELECTRIC.

PREFERENCE OR PREJUDICE.

See DISCRIMINATION.

PREFERENTIAL OR SPECIAL RATES.

Preferential or special rates to consumers of water utilities, prohibited, *see* RATES–WATER, 32.

PRORATING OF EXPENSES.

See Apportionment of expenses, *under* ACCOUNTING.

PUBLIC CONVENIENCE A NECESSITY.

See also CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY.

Electric utilities, public convenience and necessity of construction of a municipal lighting plant, *see* CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY, 1.
Telephone utilities, construction of line, public convenience and necessity of, *see* TELEPHONE UTILITIES, 2–3.
extension of line, public convenience and necessity of, *see* TELEPHONE UTILITIES, 14–25.
establishment of checking station, public convenience and necessity of, *see* TELEPHONE UTILITIES, 1.

Definition of.

1. In the case *Winter v. La Crosse Tel Co. et al.* 1913, 11 W. R. C. R. 748, it was stated, in substance, that to justify the public obligation usually imposed by "public convenience and necessity" there must be

present some imperative public exigency. It is inevitable in such a situation as that at Janesville that the aggregate loss of time, inconvenience, and annoyance through the absence of such physical connection as is here requested must be great, and the conclusion is equally inevitable that a public exigency demands physical connection. *McGowan v. Rock County Tel. Co. et al.* 529, 537.

PUBLIC CORPORATIONS.

See CITIES; MUNICIPALITIES; TOWNS; VILLAGES.

PUBLIC HEARING.

Commission not required to hold public hearing in dealers' license cases, *see* LICENSE, 2.

PUBLIC SERVICE CORPORATIONS.

See ELECTRIC UTILITIES; GAS UTILITIES; INTERURBAN RAILWAYS; RAILROADS; STREET RAILWAYS; TELEPHONE UTILITIES; WATER UTILITIES.

PUBLIC UTILITIES.

See ELECTRIC UTILITIES; GAS UTILITIES; TELEPHONE UTILITIES; WATER UTILITIES.

CONTROL AND REGULATION OF PUBLIC UTILITIES.

What are public utilities—Telephone company declared to be a public utility.

1. The contention of the West Kewaunee & Western Tel. Co. that it is not a public utility, for the reason that all its subscribers are stockholders, cannot be granted in view of the fact that the company uses the highways of the state for its pole and wire lines and the further fact that the company apparently holds itself out as giving a public telephone service as distinguished from a purely private service. *In re Proposed Extension of West Kewaunee & W. Tel. Co.* 219, 223.

SCOPE AND PURPOSE OF LAW.

With respect to duplication of telephone lines within the same territory.

2. Chapter 610 of the laws of 1913 extends to telephone companies the same kind of protection against unnecessary competition that had been given by the state to other public utilities. In other words, public convenience and necessity do not require the duplication of lines in the instant case. (*In re Alleged Violation of Chapter 610 of the Laws of 1913 by the Lisbon Tel. Co. 14 W. R. C. R. 131*). *In re Proposed Extension Wis. Tel. Co.* 396, 398–400.

PUBLIC UTILITIES LAW.

SECTIONS CONSTRUED.

Sec. 925—95*b* to 925—95*c*, water utilities, municipal utilities, management, financial transactions, *see* WATER UTILITIES, 2.

Sec. 1797*m*—4, (ch. 546, laws of 1911), facilities to be granted other utilities, physical connection between telephone lines; petition to Commission, *see* TELEPHONE UTILITIES, 37–38.

Sec. 1797*m*—33, discriminatory rates, *see* DISCRIMINATION, 6.

Sec. 1797*m*—74, nature of franchise, *see* RAILROAD COMMISSION, 13.

Sec. 1797*m*—74 (ch. 610, laws of 1913), telephone utilities, extension of lines into municipality in which another utility is already engaged in furnishing local service, *see* TELEPHONE UTILITIES, 40, 44.

Sec. 1797*m*—74, (ch. 610, laws of 1913), extension of lines, authority for, *see* TELEPHONE UTILITIES, 5, 10, 13, 28.
Sec. 1797*m*—74 (ch. 610, laws of 1913), extension of service, authority from Commission necessary, *see* TELEPHONE UTILITIES, 4, 10, 13, 28.
Sec. 1797*m*—74 (ch. 610, laws 1913), competition of utilities prohibited, *see* TELEPHONE UTILITIES, 12, 40.
Sec. 1797*m*—90, rental for equipment paid by utility to customer of water utility, *see* WATER UTILITIES, 8–9.
Sec. 1797*m*—90, facilities in exchange for less compensation prohibited, *see* RATES–TELEPHONE, 11.

PUMPAGE.

Pumpage, lost and unaccounted for, *see* RATES–WATER, 13.

PUMPING.

Electric rates for municipal pumping, *see* RATES–ELECTRIC, 32.

RAILROAD COMMISSION.

Authority of Commission in awarding reparation.

1. It is only when the Commission finds that the rate is unusual, exorbitant, illegal or erroneous that reparation may be awarded. The mere fact that a rate has been reduced by the Commission is not sufficient ground in itself for authorizing refunds. (*Menasha Wooden Ware Co. v. W. C. R. Co.* 1908, 2 W. R. C. R. 589; *Beaver Dam Lbr. Co. v. C. St. P. M. & O. R. Co.* 1908, 2 W. R. C. R. 700; *Merrill Wooden Ware Co. v. C. M. & St. P. R. Co.* 1908, 3 W. R. C. R. 54; *Connor Land & Lbr. Co. v. C. & N. W. R. Co.* 1911, 7 W. R. C. R. 744.) *Peshtigo Lbr. Co. v. C. & N. W. R. Co.* 624, 626, 627.

Authority of Commission to order physical connection.

2. In the instant case the respondent alleges that the petitioner is without authority, right, or capacity to file or present the foregoing petition; that ch. 546 of the laws of 1911, pursuant to which the petition purports to be filed, is in violation of and in conflict with sec. 1 of article IV, sec. 2 of article VII, and secs. 5, 13 and 22 of article I of the constitution of the state of Wisconsin, and with sec. 10 of article I, of the constitution of the United States, and of sec. 1 of the fourteenth amendment to said constitution. The objections to the jurisdiction of the Commission based upon the alleged invalidity of the statute involved in these proceedings were also set up in the answer and disposed of in the case of *Winter v. La Crosse Tel. Co. et al.* 1913, 11 W. R. C. R. 748. *McGowan v. Rock County Tel. Co. et al.* 529, 531–533.

Duty of the Commission to determine mode and manner of a proposed crossing.

3. In the instant case petitioner contended that under sec. 1299*h*—1 of the statutes, the respondent is required to construct a suitable crossing within its right of way entirely at its own expense. *Held:* Sec. 1797—12*e*, subsequently enacted by the legislature, imposes upon the Commission the duty, upon petition, of determining the mode and manner of a proposed crossing in the interest of public safety, and of apportioning the cost of such crossing between the railway company and the municipality in interest. Necessarily, where the offices of the Commission are invoked in such a case, the provisions of the earlier statute become inactive as to the particular case. The action of the Commission in the present case is predicated upon sec. 1797—12*e* of the statutes. *Town of Elcho v. C. & N. W. R. Co.* 796, 800–801.

Duty of Commission to require physical connection.

4. Section 1797*m*—4 of the statutes imposes upon the Commission the power and duty of requiring physical connection, and it is therefore so ordered in the instant case. *Hawkins Creek Tel. Co. et al. v. Badger Tel. Co.* 655, 661–664.

Jurisdiction of Commission—Commission without authority over interstate shipments.

5. In considering the matters in issue, we have laid aside the question of the jurisdiction of this Commission because of the fact that the cars were required for interstate shipments, and have determined these matters on their merits. *Colfax Produce Co. v. M. St. P. & S. S. M. R. Co.* 86, 91.

Jurisdiction of Commission—Commission without authority to authorize the abandonment of street railway line.

6. No power is vested in the Commission to authorize the abandonment of any line of street railway, that matter being one over which the common council has exclusive jurisdiction. (*Lang v. City of La Crosse et al.* 1909, 3 W. R. C. R. 292, 298). *Jones v. Wis. Ry. Lt. & P. Co.* 518, 522.

7. The Commission is without jurisdiction to grant the prayer of the petition, which is in substance that petitioner be authorized to abandon its existing tracks upon the completion of a new route for which it holds a franchise. (*Lang v. City of La Crosse et al.* 1909, 3 W. R. C. R. 292, 298.) The abandonment of a line of street railway is a matter wholly within the jurisdiction of the common council. *In re Chippewa Val. R. L. & P. Co.* 713, 714.

Jurisdiction of Commission—Commission without jurisdiction to order extension of service.

8. As to the extension of service requested of the Wis. Tel. Co., the Commission is without jurisdiction. The Wis. Tel. Co. is not obligated to furnish service of a local character in the village. On the contrary, it could only make the extensions in question after filing notice with, and securing the approval of the Commisson under ch. 610, laws of 1913, and it would be contrary to the established policy of the legislature for the Commission to permit or require the extension of the Wis. Tel. Co's lines into Fall River for local service, even though such requirement were legally possible. *In re Invest. People's Tel. Co. et al. at Fall River*, 793, 795.

Jurisdiction of Commission—Commission without power to compel street railway company to make extensions or additions to line.

9. The Commission has no authority to order extensions of street railway lines. (*City of Merrill v. Merrill Ry. & Lt. Co.* 1910, 5 W. R. C. R. 418, 425). *City of Racine v. T. M. E. R. & L. Co.* 148, 149.

Jurisdiction of Commisison—Over interstate trains.

10. It would seem clearly within the decisions of the supreme court of the United States a burden upon interstate commerce and therefore beyond the jurisdiction of the Commission to compel interstate trains to stop at stations where the local service is already reasonably adequate and where the size of such stations does not warrant the stopping of such trains. *Adams et al. v. C. B. & Q. R. Co.* 506, 507.

11. The power of the Commission over interstate trains is limited. If a railway company furnishes reasonably adequate service to a com-

munity, it has performed its public obligation in that respect. Further service is a matter of discretion on the part of the company, and not a duty that can be imposed by public authority. (*Farmer v. D. S. S. & A. R. Co.* 1907, 1 W. R. C. R. 316; *Schmidt v. G. N. R. Co.* 1909, 4 W. R. C. R. 121; *Laun v. C. M. & St. P. R. Co.* 1910, 6 W. R. C. R. 5.) *Anderton et al. v. M. St. P. & S. S. M. R. Co.* 247, 249.

Jurisdiction of Commission—Over obstructions in navigable streams.

12. It will be observed that the statute (sec. 1596), speaks of the unlawful obstructions, but does not attempt to define what constitutes an unlawful obstruction. Consequently, in the absence of any judicial interpretation limiting and defining the term "unlawful obstruction," the administration of the statute is rendered difficult and uncertain. As a guide to the Commission, it is essential that some general criterion be established by which the unlawfulness of any structure in or over a navigable stream may be determined. If the illegality of every obstruction is to be determined upon its own set of facts and without any general precedent to guide property owners when encroaching on navigable streams, an interminable amount of litigation will arise and a correspondingly heavy burden will be placed upon the Commission in the investigations which it will be called upon to make of the innumerable obstructions in and over the navigable streams of the state. It is exceedingly important that a judicial determination of the rights of property owners involved in this proceeding be had without unnecessary delay. Other property owners similarly situated upon this stream at other points and owners of property abutting on the various navigable streams in the state are interested in the controversy here under consideration for their rights to the use of the streams are equally in doubt. Under the circumstances we do not deem it incumbent upon us to pass upon the legality of the maintenance of the obstructions here in question. We shall content ourselves with a brief finding of the facts based upon the testimony offered at the hearing and upon the results of the independent investigation made by the Commission. *In re Obstructions in the Rock River at Janesville*, 190, 202–203.

Jurisdiction of Commission—Over Public Utilities.

13. The instrument referred to by the respondent as its contract with the town of Vaughn is apparently nothing more or less than its franchise to build, own and operate a water utility in and for the unincorporated village of Hurley, and as a franchise it has been modified by legislative enactment and has become an indeterminate permit. The company has, without voluntary election so to do, become subject to the provisions of ch. 499 of the laws of 1907, known as the Public Utilities Law, and acts amendatory thereof and supplementary thereto. The fact that the company has not voluntary elected to come under the indeterminate permit provision of the Utilities Law is deemed to be of no material effect. *Town of Vaughn v. Hurley W. Co.* 291, 294.

Jurisdiction of Commission—Over railway crossings.

14. The legislature of 1913 (ch. 603, laws of 1913), empowered the Commission to order the closing of a grade crossing and the substitution of another therefore at grade, if found necessary in the interest of public safety. *In re Barron's Crossing in the Town of Almena*, 128, 129.

15. Authority was conferred upon the Commission by ch. 603, laws of 1913 (sec. 1797—12*f*), to order the relocation of highways. *In re C. M. & St. P. Crossings in Cross Plains*, 343, 344.

16. Sec. 1797—31 imposes upon the Commission the duty of enforcing the provisions of sections 1797—1 to 1797—38 inclusive, known as the

Railroad Commission Act, as well as all other laws relating to railroads, and to report all violations thereof to the attorney-general. *In re Crossing on C. & N. W. R. in Town of Gale*, 445, 447–448.

Jurisdiction of Commission—Over railway crossings not at grade.

17. The Commission has jurisdiction under sec. 1797—12*e* of the statutes to pass upon the safety of a crossing not at grade upon complaint by the proper municipal authorities. *City of Monroe v. C. M. & St. P. R. Co.* 176, 178.

Jurisdiction of Commission—Over restoration of a highway.

18. The respondent's contention that the Commission has no jurisdiction to enforce the provisions of sec. 1836 of the statutes was discussed in *In re Crossing on C. & N. W. R. in Town of Gale*, 1914, 14 W. R. C. R. 445, and the opinion there given is here followed. *Held:* 1. The crossings should be further protected by the addition of guard rails along the sides of the approaches. 2. The respondent should reduce the grade of approach at each of the crossings to a maximum of 4 per cent in order to fulfill the duty imposed by sec. 1836 of the statutes. The respondent is ordered to provide properly surfaced highway approaches not exceeding 4 per cent in grade at each of the crossings with suitable guard rails on each side of the highway embankments. Sixty days is considered a sufficient time within which to comply with this order. *Town of Menomonee v. C. & N. W. R. Co.* 549, 552.

Jurisdiction of Commission—Over location of a station.

19. The Commission is empowered in a proper case to fix the point of location of a depot. (*City of Rhinelander v. M. St. P. & S. S. M. R. Co.* 1912, 8 W. R. C. R. 719, 725). *Von Berg et al. v. C. M. & St. P. R. Co.* 553, 554.

Jurisdiction of Commission—Commission without authority to order telephone company to cease giving service.

20. The extension in question, so far as it reaches the Lisbon Plank Road and residences along the road, is not required by public convenience and necessity and is in existence in violation of law. Though the Commission apparently has no authority to order the Lisbon Tel. Co. to cease giving service to subscribers along the road named, the failure of the company to discontinue such service will render the company liable to prosecution. *In re Alleged Violation of Law by Lisbon Tel. Co.* 131, 135.

Jurisdiction of Commission—Over train service.

21. It is our understanding of sec. 1801 of the statutes that the quantity of service required thereby is a minimum which may or may not fully meet the requirements of adequacy. The Commission would not be justified in finding that fewer trains could furnish adequate service at a station within the classification, but certainly if the designated number of trains were stopped at extremely inconvenient hours, thereby rendering the service of little or no value to the residents of the locality, the Commission would have power to require a rearrangement of schedule or the operation of additional trains. *James Callen Jr., et al. v. C. M. & St. P. R. Co.* 581, 583–584.

Jurisdiction of Commission—Warehouse site.

22. This statute (sec. 1802*a*) empowers the Commission to require a railway company to lease a site on its right of way only when such site is to be used for the construction of a public elevator or warehouse. The petitioner testified that if granted the desired site, he proposes

to ship coal, cement, flour, bran and foodstuffs of all kinds into Mukwonago, store them temporarily, and sell to farmers and other customers. There is no evidence to show that the proposed warehouse would be used in any other way than as a private warehouse in connection with a private mercantile business. Under such circumstances it is obvious that the Commission is without jurisdiction in the matter. *Rust v. M. St. P. & S. S. M. R. Co.* 251, 252.

RAILROAD COMMISSION ACT.

See RAILROAD LAW.

RAILROAD COMMISSION LAW.

See RAILROAD LAW.

RAILROAD CROSSINGS.

See RAILROADS.

RAILROAD LAW.

SECTIONS CONSTRUED.

Sec. 1797—4, regulation of charge for storage of freight, see RATES—RAILWAY, 3.

Sec. 1797—9, station facilities, duty of railway company to employ caretaker, *see* STATION FACILITIES, 4.

Sec. 1797—12*e*, Railroad Commission, power of Commission to require an alteration in a crossing not at grade upon a petition brought by the common council of a city, *see* RAILROAD COMMISSION, 17.

Sec. 1797—12*e*, Railroad Commission, jurisdiction of Commission over railway crossings, *see* RAILROAD COMMISSION, 3.

Sec. 1797—12*f*, Railroad Commission, power of Commission to order the closing of a grade crossing and the substitution of another therefore at grade, if found necessary in the interest of public safety, *see* RAILROAD COMMISSION, 14.

Sec. 1797—12*f* (ch. 603, laws of 1913) confers upon the Commission authority to order the relocation of highways, *see* RAILROAD COMMISSION, 15.

Sec. 1797—22.2, discrimination prohibited, *see* RATES—RAILWAY, 32, 47; DISCRIMINATION, 15.

Sec. 1797—31, violation of the law, investigation by Commission, *see* RAILROAD COMMISSION, 16.

Sec. 1801, jurisdiction of Commission over train service, *see* RAILROAD COMMISSION, 21.

Sec. 1802*a*, warehouse sites on railway right of way, *see* RAILROAD COMMISSION, 22.

Sec. 1836 of the statutes requires that a railroad shall restore to usefulness any highway crossed by its line, *see* RAILROAD COMMISSION, 18.

RAILROADS.

See CARRIERS; CONNECTING CARRIERS; INTERURBAN RAILWAYS; STREET RAILWAYS.

Discrimination as between localities, *see* DISCRIMINATION, 7, 16.
as between shippers, *see* DISCRIMINATION, 9–15.

CONSTRUCTION, MAINTENANCE AND EQUIPMENT.

Crossings—Railroad by highway—Protection of—Jurisdiction of Commission.

1. The Commission has jurisdiction under section 1797—12*e* of the statutes to pass upon the safety of a crossing not at grade, upon com-

plaint by the proper municipal authorities. *City of Monroe v. C. M. & St. P. R. Co.* 176, 178.

2. Authority was conferred upon the Commission by Ch. 603, Laws of 1913 (sec. 1797—12*f*), to order the relocation of highways. *In re C. M. & St. P. R. Crossings in Cross Plains*, 343, 344.

3. Sec. 1797—31 imposes upon the Commission the duty of enforcing the provisions of sections 1797—1 to 1797—38 inclusive, known as the Railroad Commission Act, as well as all the other laws relating to railroads, and to report all violations thereof to the attorney-general. *In re Crossing on C. & N. W. R. in Town of Gale*, 447–448.

4. In the instant case the respondent's contention that the Commission has no jurisdiction to enforce the provisions of sec. 1836 of the statutes was discussed in *In re Crossing on C. & N. W. R. in Town of Gale*, 1914, 14 W. R. C. R. 445, and the opinion there given is here followed. *Held:* 1. The crossings should be further protected by the addition of guard rails along the sides of the approaches. 2. The respondent should reduce the grade of approach at each of the crossings to a maximum of 4 per cent in order to fulfil the duty imposed by sec. 1836 of the statutes. The respondent is ordered to provide properly surfaced highway approaches not exceeding 4 per cent in grade at each of the crossings with suitable guard rails on each side of the highway embankments. Sixty days is considered a sufficient time within which to comply with this order. *Town of Menomonee v. C. & N. W. R. Co.* 549, 552.

Crossings—Railroad by highway—Alteration of.

5. A separation of grades, involving a relatively large expense, is not warranted at the present time by traffic conditions. It would necessitate the relocation of the highway in question, and, when necessary, can be accomplished at a cost not materially greater than that which would now be incurred. A reasonably safe grade crossing is practicable. But for the sake of public safety, the present highway should be altered so as to cross the track at right angles. The Commission assumes that if the proceedings of the town board to lay out the highway over the point in question should be declared invalid, new proceedings will be instituted. *Town of Elcho v. C. & N. W. R. Co.* 796, 800–801.

Crossings—Railroad by highway—Apportionment of cost among parties.

See also post, 14, 17, 22, 23.

6. In the instant case the actual cost of the alterations is apportioned 20 per cent to the city of Monroe and 80 per cent to the railroad company. *City of Monroe v. C. M. & St. P. R. Co.* 176, 179.

7. In the instant case the actual cost of the alterations is apportioned 10 per cent to the town of Cross Plains and 90 per cent to the railway company. *In re C. M. & St. P. R. Crossings in Cross Plains*, 343, 348.

8. In the instant case the actual cost of changing said highway, and of the said subway, is apportioned 20 per cent to the town of Caledonia and 80 per cent to the railway company. *In re Crossing on C. & N. W. R. North of Racine*, 454, 456.

9. In the instant case the actual cost of the subway is apportioned 20 per cent to the city of Racine and 80 per cent to the railway company. *City of Racine v. C. & N. W. R. Co.* 783, 787.

10. Petitioner contended that under sec. 1299*h*—1 of the statutes, the respondent is required to construct a suitable crossing within its right of way entirely at its own expense. *Held:* Sec. 1797—12*e*, subsequently enacted by the legislature, imposes upon the Commission the duty, upon petition, of determining the mode and manner of a proposed crossing in the interest of public safety, and of apportioning the cost of such crossing between the railway company and the municipality in interest. Necessarily, where the offices of the Commission are invoked in

such a case, the provisions of the earlier statute become inactive as to the particular case. The action of the Commission in the present case is predicated upon sec. 1797—12*e* of the statutes. In the instant case the actual expense of constructing the crossing is apportioned 50 per cent to the town of Elcho and 50 per cent to the railway company. *Town of Elcho v. C. & N. W. R. Co.* 796, 801.

Crossings—Railroad by highway—Construction of footpath.
See post, 22.

Crossings—Railroad by highway—Elimination of.
See post, 17, 18, 20, 22, 34.

Crossings—Railroad by highway—Mode and manner of crossing—Determination of.
See post, 23.

Crossings—Railroad by highway—Protection of.

11. The Commission, on its own motion, investigated the necessity of protecting a highway crossing at the intersections of the Drummond road in the city of Eau Claire with the lines of the C. St. P. M. & O. Ry. Co. and the C. M. & St. P. Ry. Co. The fact that a question as to whether the Drummond road is a public highway is pending before the courts will not deter the Commission from requiring the installation of such safeguards as are necessary for the immediate protection of the traveling public. If the road is finally declared by the courts to be a public highway, however, it may become necessary to make certain alterations in the crossing for the full and permanent protection of the traveling public. *Held:* 1. The crossing of the Drummond road with the line of the C. M. & St. P. Ry. Co. is reasonably safe under the existing traffic conditions. 2. The crossing of the Drummond road with the line of the C. St. P. M. & O. Ry. Co. is dangerous. It is ordered that the C. St. P. M. & O. Ry. Co. maintain a flagman at the crossing on its line between the hours of 6:15 a. m. and 6:15 p. m. daily. *In re Drummond Road Crossing in Eau Claire*, 104, 107.

12. The respondent alleges that the removal of a warehouse near Clark st. in the village of Spencer and the making of other improvements render unnecessary the crossing protection required in the order issued in this matter on Sept. 9, 1913 (12 W. R. C. R. 525). *Held:* The protection required by the former order is necessary. The order will therefore stand. *Village of Spencer v. M. St. P. & S. S. M. R. Co.* 108, 109.

13. The petitioner alleges that several highway crossings on the respondent's line in the city of Monroe, Green county, are not properly planked and surfaced and that the crossings at Payne street and Madison street are dangerous to public travel. The planking and surfacing of the streets at the crossings other than those at Madison street and Payne street have been improved to the satisfaction of the city authorities since the hearing and only the matter of adequate protection at the Madison street and Payne street crossings remains for determination. *Held:* The crossings in question are dangerous. The respondent is ordered: (1) to install and maintain at the Madison street crossing an electric bell with illuminated sign, plans to be submitted for approval; or, at its option, to stop each of its southbound trains at this crossing and send a flagman ahead who shall remain at the crossing and warn travelers until the train has passed; and (2) to install and maintain at the Payne street crossing an electric bell with illuminated sign, plans to be submitted for approval; and to improve the highway approaches as specified. *City of Monroe v. I. C. R. Co.* 118, 122.

14. The petitioner alleges that the highway bridge over the respond-

ent's tracks at Main st. in the city of Monroe is unsafe and asks that the respondent be required to replace the bridge with a steel and cement viaduct. The respondent questions the jurisdiction of the Commission. *Held:* (1) The Commission has jurisdiction under sec. 1797—12*e* of the statutes to pass upon the safety of a crossing not at grade upon complaint by the proper municipal authorities. (2) The crossing in question is dangerous. It is ordered that the respondent improve the approaches to the bridge and construct sidewalks on the sides of the bridge as specified, plans to be submitted for approval. The city of Monroe is to pay 20 per cent of the cost as determined by the Commission, and the respondent is to pay the remainder. The improvements ordered are to be completed and open for the use of the public by June 15, 1914. *City of Monroe v. C. M. & St. P. R. Co.* 176, 179.

15. The petitioner alleges that the crossings on the respondent's line at Pearl st. and Main st. in the village of Merrillan, Jackson county, are dangerous and that the protection now afforded by electric bells is inadequate and annoying to the public. Investigation shows that because of the conditions of railway operation at Merrillan the bells in question frequently ring for long periods when no trains are actually passing over the crossings. *Held:* The crossings are dangerous and, under the peculiar conditions of highway traffic and train operation which obtain there, the existing safeguards are inadequate. The respondent is ordered to station a flagman at the Pearl st. crossing who shall be on duty from 7. a. m. to 6:30 p. m. daily; to install and maintain an electric gong at the Main st. crossing to be operated by the flagman at Pearl st.; to replace the electric bells now installed at Pearl st. and Main st. by modern visual signals operated automatically and equipped with a suitable flashing device to be operated when the flagman is not on duty; to replace the board fence which extends west from Main st. along the south side of the connecting track with the C. B. & W. R. R. Co's line by a woven wire fence; and to flag all switching movements over Main st. on said connecting track. Plans for the electric gong and signal lights are to be submitted for approval. Ninety days is considered a reasonable time within which to comply with this order. *Village of Merrillan v. C. St. P. M. & O. R. Co.* 315, 319.

16. The petitioner alleges that the Radiske, Jefferson st., Palmyra road and Golden Lake crossings on the respondent's line in the town of Sullivan, Jefferson county, are dangerous. Inasmuch, however, as it is admitted that the complaint is not directed primarily against the Radiske and Golden Lake crossings and as the testimony introduced with respect to these crossings is very meager, action at the present time is confined to the Jefferson st. and Palmyra road crossing. *Held:* The crossings at Jefferson st. and the Palmyra road are dangerous. The respondent is ordered: (1) to install within ninety days and maintain at each of the crossings an automatic electric bell with illuminated sign, plans to be submitted for approval; and (2) to flag each of the crossings during all switching movements over it and during such time as standing trains may be cut to allow highway traffic to cross. *Town of Sullian v. C. & N. W. R. Co.* 320, 324.

17. The petitioner alleges that the Dorsett crossing on the respondent's line, about three miles east of Wilton, Monroe county, is dangerous and asks that the respondent be ordered to construct an undercrossing for the highway. The respondent contends that the existing bell protection is adequate. Five possible plans for grade separation are considered. *Held:* The crossing is dangerous and the existing protection is inadequate. It is ordered: (1) that the respondent construct and maintain an under-highway crossing at a point and in a manner specified, and connect it with the existing highway; (2) that the town of Wilton pay to the respondent 25 per cent of the cost of the alterations ordered, as determined by the Commission, and that the respondent

bear the remainder of the cost; and (3) that, when the under-crossing ordered is completed, the existing crossing be closed. The alterations ordered are to be completed and the new crossing opened for use by Nov. 1, 1914. If the town of Wilton prefers to undertake the work ordered to be done outside the railroad right of way, the order will be modified to permit it, with the understanding that the town bear the entire cost of the work so undertaken. *Town of Wilton v. C. & N. W. R. Co.* 334, 339.

18. Complaint was made by the town of Cross Plains that three crossings on the respondent's line, designated as the Second Schulenberg crossing, the Bollenbeck crossing and the John Schoepp crossing, were dangerous. A hearing was held and the relocation of the highways and the substitution of two less obstructed grade crossings for the three existing ones was suggested, but, inasmuch as the Commission was not at that time empowered to order such a change, the matter was left open for informal adjustment. Such authority, however, was subsequently conferred upon the Commission by ch. 603, laws of 1913, and, since the proposed improvements had not been effected, the Commission investigated the matter on its own motion. The plan for the relocation of the highways is again considered. *Held:* The crossings require further protection. In view of the fact that the Bollenbeck and Schoepp crossings cannot be entirely eliminated but would necessarily be used by farmers as private crossings, the advantages to be gained by the proposed relocation of the highways at these two crossings would be largely offset by the additional danger to which the farmers in question would be subjected. Bell protection will adequately safeguard these crossings under existing traffic conditions. The highway at the Second Schulenberg crossing should, however, be relocated. It is ordered: (1) that the respondent install and maintain at the Bollenbeck crossing and at the John Scoepp crossing an electric bell with illuminated sign, plans to be submitted for approval; (2) that the respondent construct a new crossing at grade about 470 feet northwest of the Second Schulenberg crossing and relocate the highway as specified; (3) that the town of Cross Plains pay to the respondent 10 per cent of the cost of the alterations ordered as determined by the Commission, the remainder of the cost to be borne by the respondent; and (4) that when the alterations ordered are completed and the new crossing opened for public travel, that portion of the highway now crossing the railway track at grade within the right of way lines at the Second Schulenberg crossing be closed to the public and enclosed by the respondent with continuous fences. Ninety days is considered a reasonable time within which to comply with this order. *In re C. M. & St. P. R. Crossings in Cross Plains*, 343, 349.

19. The Commission, on its own motion, investigated the "Richard Jahn crossing" on the C. & N. W. Ry. in the town of Gale, Trempealeau county, after informal complaint had been made that the crossing is dangerous to public travel and that a small bridge located almost entirely on the railroad right of way is in a dangerous condition. As originally constructed the highway was practically level at the point in question but when the railroad was built the highway was raised so as to provide a grade crossing, thereby creating the ascending approaches against which complaint is made. The railway company contends that the jurisdiction of the Commission does not extend to the enforcement of the duties laid upon railroad companies by sec. 1836 of the statutes which requires a railway company in a case like the instant case to restore a highway crossed by its line "to its former state or to such condition as that its usefulness shall not be materially impaired." *Held:* 1. The crossing is dangerous and inconvenient. 2. The Commission is vested with authority by sec. 1797—31 of the statutes to enforce the provisions of sec. 1836 of the statutes. The railway company is ordered to improve the highway approaches to the crossing as specified, to construct

a suitable culvert, to replace the bridge against which complaint is made, and to remove the trees and brush along the creek within the railroad right of way lines. It is recommended that the town board cause to be removed the obstructing brush and trees within the limits of the highway and that it take such action as is necessary to secure the removal of the obstructing brush located on private property in the northeast angle of the crossing. *In re Crossing on C. & N. W. R. in Town of Gale*, 445, 448.

20. A previous order in this matter as amended requires the C. & N. W. Ry. Co. to construct a new subway at the crossing in question south of the existing subway, using the south abutment of the present structure for a pier, the work to be completed by June 1, 1914. Examination of plans submitted by the railway company and further consideration of the situation at the proposed subway indicate, however, that the retention of the south abutment of the existing subway as a solid pier, as specified in the order, would result in obstructing the view of traffic from the opposite side. The substitution of an open work steel pier for the concrete pier was agreed upon by the interested parties and the order is modified to permit this change. An extension of time for compliance until September 1, 1914, is allowed. *In re Crossing on C. & N. W. R. North of Racine*, 454, 456.

21. The petitioner alleges that two highway crossings on the respondent's line lying partially in the town of Menomonee, Waukesha county, are unsafe for public travel and that the grade of approach is too steep for teaming. The respondent made certain improvements in the grade of the approaches at the crossings subsequent to a conference between the interested parties, looking toward an informal adjustment of the matters in dispute, but the petitioner objects to the grades of 7 and 7½ per cent left at the crossings. Both the highways involved were in use before the respondent's line was constructed and were practically level at the point where they now cross the railway line. The construction of a grade crossing with approaches on a 7 or 7½ per cent grade in the place of a practically level highway, especially when a considerable further reduction of grade can be made without unreasonable expense, is not regarded as a substantial compliance with sec. 1836 of the statutes, which makes it the duty of a railway company to restore any highway crossed by its line "to its former state or to such condition as that its usefulness shall not be materially impaired." The respondent's contention that the Commission has no jurisdiction to enforce the provisions of sec. 1836 of the statutes was discussed in *In re Crossing on C. & N. W. R. in Town of Gale*, 1914, 14 W. R. C. R. 445, and the opinion there given is here followed. *Held:* 1. The crossings should be further protected by the addition of guard rails along the sides of the approaches. 2. The respondent should reduce the grade of approach at each of the crossings to a maximum of 4 per cent in order to fulfill the duty imposed by sec. 1836 of the statutes. The respondent is ordered to provide properly surfaced highway approaches not exceeding 4 per cent in grade at each of the crossings with suitable guard rails on each side of the highway embankments. Sixty days is considered a sufficient time within which to comply with this order. *Town of Menomonee v. C. & N. W. R. Co.* 549, 552.

22. The respondent petitioned for a rehearing in the matter of *City of Racine v. C. & N. W. R. Co.* 1913, 11 W. R. C. R. 740, involving the construction and maintenance of a subway at Mound avenue in the city of Racine, and suggested a change in the original order on the ground that, for a relatively small additional expense, a more favorable grade of approach to the subway in question could be secured, and the necessity of further substantial change of the tracks at this point, in case of a general grade separation in the city, could be obviated. The petitioner contended that an additional subway for foot passengers should be constructed at Maple street. As to the issue raised by the city over the apportionment of the cost under the revised plans, it appeared that, in ad-

dition to the improved convenience of the subway for the traveling public, the accomplishment at the present time of that part of the work forming a permanent part of a possible general track elevation, would relieve the petitioner of approximately the same expense in the future. *Held:* The change suggested by respondent would result in a more satisfactory subway than that originally ordered. The original order is therefore vacated, and in lieu thereof respondent is ordered to build the subway in question as specified in the present order. The proposed additional subway for foot passengers at Maple street is unnecessary. A foot path, parallel to the railway line, and extending from Maple street to the subway at Mound avenue would give better service, and cost much less. Respondent is ordered to construct such a footpath in the manner specified in the order. That part of Maple street lying between respondent's right of way limits is ordered closed, and respondent is authorized and directed, upon the opening of the subway and footpath, to obstruct that part of Maple street just described so that it cannot be used for public travel. The changing of the grade of Mound avenue by the petitioner so as to comply with the provisions of the order is made a condition precedent to the obligations of the respondent. The apportionment of 20 per cent of the cost to the petitioner and 80 per cent to the respondent, adopted in the original order, is deemed equitable under the revised construction, and is not changed. Barring the contingencies noted, the work is to be completed, and the subway and footpath opened for public use on or before October 1, 1914. *City of Racine v. C. & N. W. R. Co.* 783, 785.

23. Complaint was made that the respondent had failed to construct a highway crossing at a point about one and one-fourth miles north of Summit Lake, at which point a new road laid out by the petitioner intersected the line of the respondent, and that respondent's failure to do so created a condition dangerous to public travel. The Commission is asked to determine the mode and manner of the crossing, and to require the respondent, at its own expense, to construct, grade and maintain in a safe condition for public travel the portion of the highway lying within its right of way lines. The respondent contended that the proceedings with reference to the laying out of the highway in question were invalid for several reasons, which are stated in the decision, and that, since an order determining the mode and manner of the proposed crossing can be effective only upon the legal opening of the highway, the Commission should not act unless the proceeding is clearly valid. *Held:* The technical validity of the action of the town board in laying out a highway over the right of way of a railway company must be determined in the courts, and in the present case is immaterial so far as the proceeding before the Commission is concerned. (*Town of Gillett v. C. & N. W. R. Co.* 1912, 9 W. R. C. R. 535.) Pending an adjudication by the courts, the Commission has no choice but to determine the mode and manner of the crossing as provided by law. It appeared that the crossing at grade had already been constructed in spite of active opposition on the part of the respondent, and that the angle of crossing was acute. Respondent contended that the crossing as constructed was dangerous, but admitted that it could be made less so through reconstruction at right angles to the track. Respondent stated that an overhead highway crossing could be constructed about 1,000 feet south of the existing site at a cost of approximately $7,000. The traffic on the highway in question is light, and the surrounding country only partially developed. *Held:* A separation of grades, involving a relatively large expense, is not warranted at the present time by traffic conditions. It would necessitate the relocation of the highway in question, and, when necessary, can be accomplished at a cost not materially greater than that which would now be incurred. A reasonably safe grade crossing is practicable. But for the sake of public safety, the present highway should be altered so as to cross the track at right angles. The Commission assumes that

if the proceedings of the town board to lay out the highway over the point in question should be declared invalid, new proceedings will be instituted. Petitioner contended that under sec. 1299*h*—1 of the statutes, the respondent is required to construct a suitable crossing within its right of way entirely at its own expense. *Held:* Sec. 1797—12*e*, subsequently enacted by the legislature, imposes upon the Commission the duty, upon petition, of determining the mode and manner of a proposed crossing in the interest of public safety, and of apportioning the cost of such crossing between the railway company and the municipality in interest. Necessarily, where the offices of the Commission are invoked in such a case, the provisions of the earlier statute become inactive as to the particular case. The action of the Commission in the present case is predicated upon sec. 1797—12*e* of the statutes. It is ordered: (1) that the respondent construct, at the point in question, a suitable grade crossing approximately at right angles to its track; (2) that the respondent furnish all necessary material and labor, and perform all necessary work in carrying out the order; and (3) that the petitioner bear 50 per cent and respondent 50 per cent of the cost as determined by the Commission. Sixty days is considered a reasonable time within which to comply with the order. *Town of Elcho v. C. & N. W. R. Co.* 796, 801.

Crossings—Railroad by highway—Protection of—Annunciators.

See ante, 12.

Crossings—Railroad by highway—Protection of—Automatic alarm.

See ante, 12, 15; *post*, 27.

Crossings—Railroad by highway—Protection of—Automatic alarm with illuminated sign.

See also ante, 13, 16, 18.

24. The petitioner alleges that a crossing on the respondent's line about one mile west of Albertville in the town of Howard, Chippewa county, is dangerous and asks that the respondent be required to install an electric bell. *Held:* The crossing is dangerous. The respondent is ordered to install and maintain an electric bell with illuminated sign, plans to be submitted for approval. Ninety days is considered a sufficient time within which to comply with this order. *Town of Howard v. M. St. P. & S. S. M. R. Co.* 433, 434.

25. The petitioner alleges that the crossings known as the Yanke crossing, the Sawyer crossing and the Hoffman crossing on the respondent's line in the town of Wien, Marathon county, are dangerous. *Held:* The crossings require further protection. The respondent is ordered to install and maintain at each an electric bell with illuminated sign, plans to be submitted for approval. Ninety days is considered a reasonable time within which to comply with this order. It is suggested that the town board remove the obstructing brush and trees at the Yanke and Sawyer crossings. *Town of Wien v. C. & N. W. R. Co.* 435, 440.

26. The petitioner alleges that a crossing on the respondent's line one mile east of Thornton, Shawano county, is dangerous. *Held:* The crossing requires further protection. The respondent is ordered to install and maintain an electric bell supplemented by a visual signal for night indication, plans to be submitted for approval. Ninety days is considered a sufficient time within which to comply with this order. *Town of Richmond v. W. & N. R. Co.* 546, 548.

Crossings—Railroad by highway—Protection of—Automatic Flagman.

27. The petitioner alleges that a crossing on the respondent's line where it intersects the road leading from Lake Geneva to Williams Bay

is dangerous. The respondent offered in its answer and at the hearing to install electric bells at the crossing but has since proposed to substitute for the protection now afforded by a flagman a grade crossing signal known as an "Automatic Flagman." *Held:* The crossing is dangerous. The respondent is ordered to install and maintain an "Automatic Flagman" or some other suitable automatic device for protecting travelers both by day and by night, plans to be submitted for approval. Ninety days is considered a sufficient time within which to comply with this order. *Town of Geneva v. C. & N. W. R. Co.* 481, 484.

Crossings—Railroad by highway—Protection of—Duty of Commission to determine mode and manner of a proposed crossing.

28. Section 1797—12*e* of the statutes imposes upon the Commission the duty of determining the mode and manner of a proposed crossing in the interest of public safety upon petition of the municipal authorities or the railway company. It also requires the Commission to apportion the cost of such crossing between the railway company and the municipality in interest. *Town of Elcho v. C. & N. W. R. Co.* 796, 801.

Crossings—Railroad by highway—Protection of—Electric signals.

See ante, 12, 13, 15, 16, 18, 24–27.

Crossings—Railroad by highway—Protection of—Flagman.

See also ante, 11–13, 15–16.

29. The Commission, on its own motion, investigated the necessity of requiring further protection at the Vine street crossing on the M. St. P. & S. S. M. Ry. in the city of Marshfield. *Held:* The crossing is dangerous. The respondent is ordered to station a flagman at the crossing who shall be on duty from 6:00 a. m. to 6:00 p. m. daily. *In re Vine St. Crossing in Marshfield*, 110, 113.

Crossings—Railroad by highway—Protection of—Guard rails.

See ante, 21.

Crossings—Railroad by highway—Protcetion of—Improvement of highway approaches.

See also ante, 13, 14, 19, 21.

30. In the instant case it is ordered that the respondent improve the aproaches to the bridge and construct sidewalks on the sides of the bridge as specified, plans to be submitted for approval. The city of Monroe is to pay 20 per cent of the cost as determined by the Commission, and the respondent is to pay the remainder. The improvements ordered are to be completed and open for the use of the public by June 15, 1914. *City of Monroe v. C. M. & St. P. R. Co.* 176, 179.

31. The railway company is ordered to improve the highway approaches to the crossing as specified, to construct a suitable culvert, to replace the bridge against which complaint is made, and to remove the trees and brush along the creek within the railroad right of way lines. *In re Crossing on C. & N. W. R. in Town of Gale*, 445, 447, 448.

Crossings—Railroad by highway—Protection of—Removal of obstructions to view.

See also ante, 15, 19, 20.

32. It is recommended that the town board cause to be removed the obstructing brush and trees within the limits of the highway and that it take such action as is necessary to secure the removal of the obstructing brush located on private property in the northeast angle of the crossing. *In re Crossing on C. & N. W. R. in Town of Gale*, 445, 448.

Crossings—Railroad by highway—Protection of—Signal lights.
See ante, 13, 15, 16, 18, 24–26.

Crossings—Railroad by highway—Protection of—Stopping of trains.
See ante, 13.

Crossings—Railroad by highway—Relocation of—Jurisdiction of Commission.

33. The legislature of 1913 (ch. 603, laws of 1913), empowered the Commission to order the closing of a grade crossing and the substitution of another therefor at grade, if found necessary in the interest of public safety. *In re Barron's Crossing in the Town of Almena*, 128, 129.

Crossings—Railroad by highway—Relocation of highway.
See also ante, 17–18, 33.

34. The Commission, on its own motion, investigated the advisability of relocating the highway at Barron's crossing on the C. St. P. M. & O. Ry. in the town of Almena. The town board and the railway company had agreed upon such a relocation after a hearing in a previous proceeding instituted by the town, but, owing to a disagreement between the town and the owner of the land necessary for the new highway, the relocation had not been effected. Since the previous proceeding was initiated authority has been given the Commission by ch. 603, laws of 1913, to order the closing of a grade crossing and the substitution of another therefor at grade, if found necessary in the interest of public safety. *Held:* The relocation of the highway is necessary for public safety. It is ordered: (1) that the railway company construct, as specified, a new crossing and a new highway connecting this crossing with the existing highway; (2) that the railway company furnish all necessary labor and material, acquire all necessary land and perform all necessary work in making the alteration ordered, and that the town of Almena, upon the completion of the work, pay to the railway company the actual cost of the land acquired for relocating the highway, all other costs to be borne by the railway company; and (3) that upon the opening of the new crossing for public travel the portion of the highway lying within the railway right of way lines at the existing crossing be closed and continuous fences erected by the railway company to prevent its use by the public. The alterations ordered are to be completed and the new crossing is to be opened by July 1, 1914. *In re Barron's Crossing in the Town of Almena*, 128, 130.

Crossings—Railroad by highway—Separation of grades—Subway.
See also ante, 17, 20, 22.

35. A previous order in this matter as amended requires the C. & N. W. Ry. Co. to construct a new subway at the crossing in question south of the existing subway, using the south abutment of the present structure for a pier, the work to be completed by June 1, 1914. Examination of plans submitted by the railway company and further consideration of the situation at the proposed subway indicate, however, that the retention of the south abutment of the existing subway as a solid pier, as specified in the order, would result in obstructing the view of traffic from the opposite side. The substitution of an open work steel pier for the concrete pier was agreed upon by the interested parties and the order is modified to permit this change. An extension of time for compliance until September 1, 1914, is allowed. *In re Crossing on C. & N. W. R. North of Racine*, 454, 456.

OPERATION.

Requirements as to service and facilities.

See also STATION FACILITIES; SWITCH CONNECTIONS; TRAIN SERVICE; WAREHOUSES.

Requirements as to service and facilities—Railway car service—Distribution of cars.

36. It seems to be well established that in times of a shortage of cars, the cars allotted to any station should be prorated among the various shippers at such station upon an equitable basis. In doing this, various elements must be taken into consideration. Among these are the volume of business done by each shipper, the character of the commodities to be shipped, the necessity for the immediate movements of certain commodities, the climate and character of the weather, and perhaps other considerations. All that the law requires is that the carrier acts justly and fairly in making the distribution of cars. There is no hard and fast rule by which the matter can be determined. In each case it must be determined by the information at hand and according to the best judgment of the person charged with the duty of making the distribution. *Colfax Produce Co. v. M. St. P. & S. S. M. R. Co.* 86, 91.

RATES.

See RATES—RAILWAY.

RAILS.

See TIES AND RAILS.

RATE ADJUSTMENT.

See RATES.

RATE SCHEDULES.

See SCHEDULES FOR UTILITIES; *also* SCHEDULES OR TARIFFS.

RATES—ELECTRIC.

See also MINIMUM CHARGES.

Discrimination in electric rates, *see* DISCRIMINATION, 1–3.

Charge for installing meters.

See post. 31.

Flat rates.

1. It is clear that the fact that service is offered, under certain circumstances, at a flat rate, cannot justify consumers in making an unreasonable use of their lamps. The flat rate is offered under certain circumstances where it appears that the installation of a meter might be a burden upon the consumer, in case the cost of the meter is to be borne by the consumer. The utility is entitled to have a rule limiting the use of lamps on a flat rate to a reasonable use and providing a penalty for violation of the rule. It was suggested on behalf of the applicant that consumers desiring to use all night lights be limited to the use of 10-watt lamps at the rate of 50 cts. per lamp. The purpose is not only to secure adequate payment for all night lamps but also to reduce to a minimum the use of current during the night and to limit that use to convenience lighting. With storage battery operation both of these purposes are important. The proposed rule appears to be reasonable and will be approved. In case consumers do not abide by the rule of

the utility there are two possible courses to be taken. Service may be discontinued or meters may be installed. Which of these courses should be pursued must be dependent upon a variety of conditions. We are inclined to believe that the better course to pursue in this case would be to use the meter basis of selling current. *In re Appl. Gilmanton Mill & El. Plant*, 152, 154.

2. The present flat rate of 50 cts. per lamp per month is equivalent to a charge of 5½ hours' use daily at the above rate. As many of the flat rate lamps are used in such places as halls, for all night service, the charge of 50 cts. per lamp per month is not deemed excessive in this case. *Hood et al. v. Monroe El. Co.* 227, 236.

3. In fixing a schedule of flat rate charges, the rate per watt of load connected should bear some relation to the amount of service rendered, but this relation is so difficult to ascertain and classify that the application of flat rates ought to be limited to those cases in which the installation of a meter is too expensive. There should be also a minimum charge for unmetered service in order to insure that a reasonable part of the cost of service be paid by the customer. *In re Appl. Browntown Mun. Lt. Plant*, 560, 565.

4. The company has filed with the Commission certain schedules to apply to patrolled service for display lighting and to residence and business lighting where the maximum demand is limited by a controlling device. In these schedules the rates consist of fixed charges based upon the amount of demand contracted for by the customers. These rates are not inconsistent with the other schedules which the Commission will order. *Douglas et al. v. Equitable El. Lt. Co.* 381, 389.

Rate for incidental small power and heating appliances.

5. The demand which consumers make upon the respondent's service for power for industrial use is not very great but the power business consists to a remarkable degree of service for domestic purposes. Many customers have large installations of electric stoves, heaters, vacuum cleaners, fans or other appliances. The use of almost any of these is not very extensive but, all together, they add considerably to the utility's business. The respondent believes that, because this service is used chiefly during the daylight hours, the business should not be lost and that the rate should be made sufficiently attractive to encourage the use of current for power purposes. This idea has merit as long as the revenue for the service furnishes something above the bare operating expense. *Douglas et al. v. Equitable El. Lt. Co.* 381, 385.

Making rates—Elements considered—Cost of service—Economies in operation.

6. A public utility which possesses an especially economical source of supply is not entitled to retain the entire saving effected by it but a portion of the saving should be given to the public in the form of lower rates. *In re Service and Rates Stevens Point Ltg. Co.* 350, 363, 364.

Making rates—Elements considered—Cost of service—Materials and supplies.

7. In reaching a conclusion concerning what should be allowed for interest and profits, the facts presented relative to the amount of the respondent's stock of material and supplies have been considered. It was found that not all of the material and supplies which entered into the valuation of the plant are devoted to the supply of utility service but that an important part thereof is used for merchandise business. But upon examination of the respondent's income account it is found also that the non-operating revenues amounted to $265. This sum is equivalent to a net earning of 7.25 per cent on material and supplies

amounting to $3,650 and affords a justification for this investment. However, in determining the cost of utility service, this value of material may be subtracted from the total value of the property if the corresponding net revenue also be not considered. *Hood et al. v. Monroe El. Co.* 227, 233.

Making rates—Elements considered—Cost of service—Output, capacity and consumer costs.

8. Expenses, including taxes, depreciation, interest and profits, are divided into two groups, capacity and output costs. The capacity costs include those expenses or portions of expenses which are proportioned or closely related to the capacity of the plant or the demands of the business, while the output costs include those related to the volume of business. This apportionment is preliminary to the division of cost among the several classes of service. *Hood et al. v. Monroe El. Co.* 227, 232.

Making rates—Elements considered—Cost of service—Taxes.

9. It is clearly evident that some consideration should be given to the increase in taxes in fixing rates for service. Otherwise, the revenue from operation would be insufficient to meet the expense of running the plant. However, the fact that various items of expense fluctuate from year to year and that some are high when others are low must not be lost sight of. *City of Watertown v. Watertown G. & El. Co.* 604, 614.

Making rates—Elements considered—Cost of service—Wages and salaries.

10. Examination shows that the payroll of the Monroe Electric Company is rather high. This is largely on account of what is paid for executive officers' salaries and superintendence in addition to the other regular labor needed to operate the utility. There seems to be very little doubt that a part of executive officers' salaries should be considered in this instance as a part of the profits of the business. In other words, liberal expenditure for salaries which may be the means of obtaining efficient operation must be considered as at least part of the premium allowable for the efficiency obtained. It makes little difference to the customers in what manner the profits of a company are divided, and for the purposes of determining the total allowable revenue, it may be borne in mind that a portion of profits has already entered into the costs in the manner explained. The propriety of the payment of this item, therefore, will not be seriously questioned here. *Hood et al. v. Monroe El. Co.* 227, 231.

Measurement of active load and maximum demand.

11. The complainants against the lighting rate are a very few users with large installations. The particular difficulty appears to be due to the fact that hotels, sanitariums, hospitals and other places of similar character were designated, in the original order, as Class C establishments, while figures of connected load and demand seem to show that, at least in this case, the percentages for Class A are more appropriate. It appears that proper relief may be secured by a reclassification of some installations or by the use of maximum demand meters. A reclassification will therefore be made and the optional use of demand meters, for certain classes, will be provided for in the order. *Douglas et al. v. Equitable El. Lt. Co.* 381, 384.

Meter rates—Straight meter rates.

12. The company has been charging 13½ cts. per kw-hr. for all current sold for commercial lighting. Under such conditions the long hour

user bears an unreasonable share of the capacity expenses. A flat meter rate schedule is therefore unjustly discriminatory in favor of short hour users, and in the schedule to be suggested, cognizance will be taken of the decreasing cost of service resultant from increasing daily use of a given connected load. *In re Service and Rates Stevens Point Ltg. Co.* 350, 369.

Minimum rates

13. The Milton W. Lt. & P. Co. applies for authority to put into effect a minimum charge of 75 cts. per month for electric current. At present the utility makes no minimum charge. Investigation of the revenues and expenses shows that the utility, which started operation March 1, 1912, is still operating under a deficit. In some cases the Commission has recommended the adoption of a minimum charge of less than 75 cts. but from a consideration of all the facts available in this case, we believe that the application for authority to put in a minimum charge of 75 cts. per month is a reasonable one. The data available do not show how many consumers would be affected by such a minimum, but it seems evident that the total increase in revenue will be rather small. *Held:* The application is a reasonable one. The applicant is therefore authorized to put into effect a minimum monthly charge of 75 cts. *In re Appl. Milton W. Lt. & P. Co.* 206, 207.

14. The McGowan W. Lt. & P. Co. applies for authority to put into effect a minimum monthly charge of $1 for electric service for which, up to the present, the utility has had no minimum charge. The utility is operating at a loss. *Held:* Although a minimum charge of $1 per month would not produce an excessive amount of revenue, such a charge is inadvisable because of its probable effect on the business of the utility. The utility is authorized to put into effect a minimum monthly charge of 75 cts. which is considered sufficient to insure the utility against actual losses arising from carrying the accounts of individual consumers. *In re Appl. McGowan W. Lt. & P. Co.* 325, 328.

15. The justice of a minimum charge has been repeatedly upheld. In order that the company may be adequately recompensed for its readiness to serve certain large installations which at certain seasons may use very little current, a minimum bill based on the size of the active horse power connected has been deemed advisable in this case. In towns where there are a multitude of larger consumers having a wide diversity of use, a utility need not keep its capacity near the sum of the different connected loads on the system. A smaller plant, similar to that at Stevens Point, must, however, be constantly ready to serve the two or three larger consumers at the same time. This necessitates that the plant capacity must more nearly approach the total connected load than the capacity of a plant whose consumers have a greater diversity of use. *In re Service and Rates Stevens Point Ltg. Co.* 350, 369, 374–375.

16. The question of the authorization of a given minimum charge should be decided with reference to the reasonableness of that particular charge rather than with reference to the total revenues of the utility, although the latter should also be considered. *In re Appl. Browntown Mun. Lt. Plant*, 560, 564.

17. The reasonableness of a carefully adjusted minimum charge, to cover certain fixed expenses of furnishing service, has been fully explained in other decisions, and no repetition of the arguments is necessary. *In re Appl. Richland Center El. Lt. & W. Plant*, 590, 591.

Power rates—Discrimination due to unlimited use under maximum charge.

18. The commercial power schedule shows a possibility of unlimited use by power users at a certain maximum price per horse power which tends toward an unjust discrimination against small users. The com-

pany has recognized this fact in filing its application. A more scientific rate will relieve this condition. *In re Service and Rates Stevens Point Ltg. Co.* 350, 357.

Power rates—Limited or "off peak" service.

19. The respondent asks that it be permitted to enforce a rule requiring consumers using current for power to discontinue use of current during the peak load on the plant or to pay a greater rate if current be taken at that time. Judging from the information now before the Commission, it seems that a rule of this kind is not unreasonable in this instance because usually the lowest rates should be given to those who can be supplied most cheaply. *Hood et al. v. Monroe El. Co.* 227, 241.

Rates for incidental or small power appliances.

20. In order to give consumers advantage of cheaper current for small power appliances which are usually supplied from the lighting circuits the respondent has, in some instances, installed separate meters and charged for the current at 6 cts. per kw-hr. This is an expensive method of supplying the service, considering the amount of current usually delivered for this purpose, and yet it is quite apparent that some reduction must be made if this kind of business is to be obtained. Under the new form of lighting schedule service may be given to incidental appliances, such as flatirons, toasters, electric fans and private washing machines, at a lower rate without installing a separate meter if the capacity of the appliances be not considered in computing the active load supplied through lighting meters. By this method, the secondary and excess rates are attained much sooner than if the load of the appliances were considered in figuring the active load. *Hood et al. v. Monroe El. Co.* 227, 242.

Reasonableness of advance in rates in particular cases.

21. The Gilmanton Mill and El. Plant applies (1) for authority to increase its rates by the adoption of such a schedule as the Commission may deem reasonable and just, and (2) to be relieved from the necessity of supplying meters free of cost to consumers, until such time as the financial condition of the utility will permit it to own and furnish meters. The utility furnishes continuous service, except for a few hours each day when a storage battery used in connection with a hydraulic generator is being charged, and it appears that some of the flat rate consumers permit their lamps to remain turned on at all times. All consumers on a metered basis have furnished their own meters. Accurate records of the operating expense of the plant are not available. *Held:* 1. Before the present rates are revised more experience in the operation of the utility should be obtained to show what business may be secured and at what cost. 2. In view of the uncertainty as to whether the revenues resulting from the present rates will be adequate to meet the needs of the plant it is not advisable to require the utility to increase its investment by requiring meters in use or by furnishing those to be installed in the future. 3. The utility is entitled to have a rule limiting the use of lamps on a flat rate to a reasonable use. It is ordered: (1) that such part of the case as relates to a higher rate for service be dismissed for the present; (2) that the utility be exempted from the necessity of supplying meters at its own expense; (3) that rules regulating the use of all night lights and flatirons in line with the views expressed in the opinion may be filed with the Commission for approval; (4) that after such rules have been filed and approved the utility may require violators of the rules to install meters at their own expense; and (5) that the utility may require all parties using electric fans or other power devices to install meters at their own expense. *In re Appl. Gilmanton Mill & El. Plant*, 152, 154, 155.

22. With respect to the matter of electric rates, the utility alleges that its present power schedule is discriminatory because it permits long hour consumers to obtain current at an excessively low rate and asks for an increase in rates to power consumers, even though it be necessary to decrease lighting rates to offset the increased revenues derived from a higher power schedule. The rate now exacted by the utility for current supplied for commercial lighting is 13½ cts. per kw-hr., minimum bill 50 cts., although the utility has a schedule on file with the Commission providing for reductions to 12 cts. per kw-hr., for the second 100 kw-hr., 11 cts. per kw-hr. for the third 100 kw-hr. and 10 cts. for all current used in excess of 300 kw-hr. No explanation of this unauthorized increase in rates is given. A schedule of rates believed to be reasonable is constructed and its probable effects on various sized installations in each classification of consumers determined. The estimates of revenues to be received under the schedule suggested, when summarized and compared with the present revenues, show a general reduction in revenues amounting to 13 per cent. *Held:* The rates exacted by the utility for commercial electric lighting and power service are unjustly discriminatory as between long hour and short hour users, and the charges made for street lighting are excessive. The utility is ordered to put into effect a schedule of electric rates prescribed by the Commission for commercial lighting, power and street lighting. The rate ordered for street lighting is to become effective only when the city of Stevens Point has filed notice with the Commission and the utility of its acceptance of a contract providing for the service of ninety or more lamps. *In re Service and Rates Stevens Point Ltg. Co.* 350, 378.

23. The Browntown Mun. Lt. Plant applies for authority to increase its minimum charge for electric service from 50 cts. to $1 per month on the ground that the present revenues are insufficient. Twenty-six citizens of the village present a petition requesting that the operation of the utility be discontinued or that its business be placed on a self-supporting basis. A valuation of the property of the utility was made and its revenues and expenses were investigated. The utility, which was established in 1910, is operating at a relatively large deficit. The community is small and a large proportion of the residents have failed to patronize the utility. It appears that the flat rates in the utility's present schedule have been disregarded in charging for unmetered service, that the revenue from municipal street lighting fails to cover the cost and that the village hall has been supplied with service without charge. The question as to whether the rates of a municipal utility must be such that the cost of service shall rest entirely upon the consumers is one which depends upon the circumstances for its answer, for the rates must be fair to the consumers as well as to the owners of the utility and the actual cost is not always the entire measure of fairness. In the instant case, in view of the fact that the citizens of the village have failed so largely to patronize their own utility, although they must have known that their undivided support was necessary to its success, it appears unreasonable to load the entire loss of operation upon those who now use the service of the utility. The question of the authorization of a given minimum charge should be decided with reference to the reasonableness of that particular charge rather than with reference to the total revenues of the utility, although the latter should also be considered. *In re Appl. McGowan W. Lt. & P. Co.* 1914, 14 W. R. C. R. 325. *Held:* The utility's rates require revision. The utility is authorized to put into effect a schedule of rates determined by the Commission. The minimum bill is to be 75 cts. per month. Charges are to be made to all classes of consumers strictly in accordance with the schedule. *In re Appl. Browntown Mun. Lt. Plant.* 560, 563, 567.

24. The Richland Center El. Lt. & W. Plant applies for authority to establish a minimum charge and a specified schedule of rates for electric current used for power purposes. The utility also desires that the Com-

mission establish rates for electric lighting and water consumers located outside the city limits. The power rates applied for were authorized previously upon informal presentation of the case. Consumers of a municipally owned utility who are located outside the limits of the municipality stand in much the same relation to the utility as they would if it were a private enterprise and so long as the rate charged them is fair they cannot complain of discrimination against them merely because that rate is slightly higher than the rate charged residents of the municipality. *Held:* The relief sought should be granted. The utility is authorized to put into effect: (1) a minimum charge of 25 cts. per h. p. per month for electric power consumers; (2) the rates specified in the application for current purchased for power purposes; (3) a specified charge for electric lighting service to consumers outside of the city limits. *In re Appl. Richland Center El. Lt. & W. Plant*, 590, 593.

Reasonableness of rates in particular cases.

25. The complainants allege that certain of the respondent's charges for electric current in the city of Monroe are excessive. A valuation was made and the revenues and expenses were investigated. The expenses were apportioned between capacity and output and further apportioned among commercial lighting, commercial power and municipal lighting expenses. *Held:* The respondent's rates require revision. The respondent is ordered to put into effect for commercial light and power service a schedule of rates prescribed by the Commission. *Hood et al. v. Monroe El. Co.* 227, 243.

26. An excessively low book charge for power supplied by one of two inter-dependent companies to the other is not necessarily conclusive on the Commission, for the Commission can no more recognize such a charge as proper than it could an unreasonably high book charge. A revision of the power expense to meet the existing conditions is therefore made in the instant case. *In re Service and Rates Stevens Point Ltg. Co.* 350, 363.

27. Informal complaints are made against the order issued in this matter July 11, 1913, 12 W. R. C. R. 337. The Commission held an informal conference with the complainants and the utility and re-investigated the matter from the point of view of the additional information disclosed at the conference. It is claimed by certain consumers that the commercial lighting rates fixed by the Commission are such that consumers with large installations now have to pay a much higher average rate per kw-hr. than previously, and by other consumers that the service charge for the use of power is excessive and that it should be eliminated. The city of Lake Geneva contends that the rate ordered for power furnished the city for use over its own street lighting distribution system is excessive when compared with the commercial lighting rate. Since the conference mentioned, the city and the utility have agreed upon a new rate for this service. *Held:* 1. The commercial lighting schedule should be modified by the reduction of the excess rate to reduce the average charge per kw-hr. for consumers who use their active load long periods daily; by the reclassification of hotels, sanitariums, hospitals, Y. M. C. A., and clubs in which meals and rooms are furnished to more closely approximate the conditions under which they receive service; and by the establishment of a flat rate or excess indicator rate to provide a schedule for a new class of service not contemplated in the original order. 2. The power schedule should be modified by changing it from a service and energy charge to a primary, secondary and excess schedule of rates to avoid an excessive average rate per kw-hr. when the amount of current consumed is small; by reducing the connected load for power installations in which the capacity of the motor exceeds the possible load, in order to establish an equitable rela-

tion to other installations; and by the reduction in the percentage active for heating loads to establish an equitable relation with other classes and to place the rate for this service within the consumer's reach. 3. The rate for current sold to the city of Lake Geneva for street lighting, as now agreed upon between the city and the utility, is reasonable. The utility is authorized to put into effect a new schedule of rates determined by the Commission. *Douglas et al. v. Equitable El. Lt. Co.* 381, 389.

28. Complaint is made that the rates charged by the Elroy Mun. W. & Lt. Plant for electric current and water are discriminatory and insufficient and that the records and accounts relating to the operation of the utility are unsystematic and unsuitable and not in accordance with the rules prescribed by the Commission. A valuation was made and the revenues and expenses were estimated, in the absence of satisfactory records, upon the basis of such information as was available. The expenses so estimated were apportioned for the electric department between capacity and output and further apportioned between street lighting and commercial lighting; for the water department they were apportioned between general service and fire service and further apportioned among capacity, output and consumer expenses. The utility has made no provision for depreciation and there has been no charge for municipal hydrant rental nor for street lighting. *Held:* Both the electric rates and the water rates require revision. Because of the lack of definite infomation, however, the conclusions drawn as to what rates are reasonable are only tentative and may require modification when the utility is able to present such information to the Commission as the law requires a utility to have available. The utility is ordered (1) to put into effect a schedule of water and electric rates fixed by the Commission and (2) to install and keep the accounts and records prescribed for it under date of April 20, 1914, subject to such modifications as the Commission may find necessary. The schedule of rates includes, among other things, provision for charges to be paid by the city of Elroy for fire protection and street lighting. *Kittleson et al. v. Elroy Mun. W. & Lt. Plant*, 485, 496.

29. The question as to whether the rates of a municipal utility must be such that the cost of service shall rest entirely upon the consumers is one which depends upon the circumstances for its answer, for the rates must be fair to the consumers as well as to the owners of the utility and the actual cost is not always the entire measure of fairness. In the instant case, in view of the fact that the citizens of the village have failed so largely to patronize their own utility, although they must have known that their undivided support was necessary to its success, it appears unreasonable to load the entire loss of operation upon those who now use the service of the utility. *In re Appl. Browntown Mun. Lt. Plant*, 560, 563.

30. The conclusion in the main points at issue rests upon what should be set up as the cost of operating the street lighting portion of the business and as a fair return on the investment devoted to it. The primary measure of these factors is usually the actual cost to the utility. If the expenditures are reasonable, the cost of service usually represents more accurately than any other figures a fair rate for the service. However, the actual expenses are not always the only measure taken of what the rate should be. Such expenses must withstand investigation designed to reveal abnormal tendencies. *City of Watertown v. Watertown G. & El. Co.* 604, 606.

31. Petitioner prays for authority to fix a minimum charge for electricity for other than power purposes, of 25 cts. per month, and to make a charge of $1 for installing an electric meter upon the cessation of electric service at any one place, used in whole or in part for business purposes, provided that the total of all charges for electric consumption

since the beginning of such service shall not thereby exceed $3. The purpose of a charge of $1 for installing electric meters is to prevent the utility from being required to furnish service at a loss to temporary consumers. It is stated that the average cost of installing an electric meter is between $0.90 and $1.00. *Held:* The minimum monthly charge suggested for electric current for all except power purposes seems clearly reasonable and is authorized. The proposed charge for installing electric meters appears a reasonable regulation, and the desired authority is granted. *In re City of Manitowoc*, 697, 700.

32. Application was made to the Commission by the Mosinee El. Lt. and P. Co. and by the village of Mosinee to fix rates for electric current furnished to the village of Mosinee for operating the pump at its pumping station. The value of the additional investment made by the company to supply current for pumping was appraised by the Commission, and the cost of further equipment necessary to prevent interruptions of the service during electrical storms was also considered. In the light of the facts before the Commission it appears that the first step of the rate schedule proposed by the utility is substantially correct, but that the other rates may be somewhat lower than those proposed. *Held:* The utility is ordered to charge the rates fixed by the Commission. *In re Invest. Mosinee El. Lt. & P. Co.* 743, 745.

Revision or adjustment of rates.

33. Although the complaint in this case does not directly involve the charges for current used for lighting business places, it is apparent that adjustment of rates for one class of service may require also a revision of the charges for a closely related class. *Hood et al. v. Monroe El. Co.* 227, 236.

Service charge plus energy charge with limiting maximum rate per kw-hr.

34. A schedule consisting of a service charge and an energy charge probably would be considered an equitable method of charging for service if the conclusion were based solely on the analysis of the cost to the company. Conditions in this case seem, however, to argue against the use of this form of schedule unless the sum of the service and energy charges be limited by a maximum rate per kilowatt-hour. First, the diversity of use of current by short hour consumers seems to be greater than for long hour consumers. Therefore it is probable that the expense of supplying the former does not rise in such a remarkable degree as the cost curve seems to show. Second, the charge fixed by the combination of service and energy rates becomes so prohibitively high in some cases that the consumer cannot afford to use the service if he must pay for it on that basis. Yet, if there is some element of profit in this business at a lower rate, other classes of users are not adversely affected if the lower rate be charged. The objectional feature of the service charge can be obviated by using a maximum limiting rate. *Hood et al. v. Monroe El. Co.* 227, 239–240.

35. Computations of the average charge per kilowatt-hour for various quantities of current consumed by a given load would show very plainly that a service charge plus an energy rate afford gradations in the bill, conforming to the cost of service. The objection to this form of schedule has real foundation, however, when the use of service is so limited that the cost greatly exceeds what the average consumer can afford to pay for it. This condition may be remedied either by limiting the maximum charge per kilowatt-hour or by making the schedule similar in form to the schedule for lighting service. The latter procedure seems to be most desired by the company and its consumers and will be followed in the instant case. *Douglas et al. v. Equitable El. Lt. Co.* 381, 385.

Street lighting rates.

36. The Sheboygan Ry. & El. Co. applies for a review of the findings in the case of *City of Sheboygan v. Sheboygan Ry. & El. Co.* 1911, 6 W. R. C. R. 353, in which the Commission reduced the utility's charges for street lamps from $74 to $68 per lamp per year, and asks for the establishment of a charge upon the basis of the actual consumption of electricity as shown by the review and reinvestigation. Since the application was filed the utility has passed into the control of new owners who have announced their intention of installing new lighting equipment. This makes it unnecessary at this time to reinvestigate the lighting service rendered by the applicant. *Held:* Careful reconsideration of the findings fails to reveal any reason for the review and reëstablishment of rates requested. The application is dismissed. *In re Appl. Sheboygan Ry. & El. Co.* 208, 209.

37. The city of Stevens Point pays for eighty-three lamps. In addition to these, service for seven lamps is furnished free by the company, three more are contracted for by the county and one by the state, making a total of ninety-four lamps in service. Under what conditions free service for seven lamps is furnished the city is not clear. As between the three consumers to whom arc lamp service is rendered, the city, county and state, it is but equitable to apportion the expense of this free service to the city. It would therefore appear proper to discontinue free service and base a rate on the total service rendered. *In re Service and Rates Stevens Point Ltg. Co.* 350, 376.

38. Nothing was said at the hearing relative to increasing the charge to the village for street lighting service, but apportionment of the operating expenses shows that this is necessary if the village is to bear the cost of service received by it. *In re Appl. Browntown Mun. Lt. Plant*, 560, 566.

39. The probable cost of operating a system of magnetite arc lamps for street lighting instead of the enclosed carbon arc lamps now in use was made a subject for testimony at the hearing and, as the city may desire to adopt this form of lighting, the cost was further investigated and a reasonable rate for the service determined. However, in the absence of definite action looking to the establishment of a magnetite system this rate is not made a part of the present order. Within reasonable limits, the utility should be permitted to exercise its own judgment in the selection of equipment and in the operation of it because upon the utility falls the obligation of rendering safe and adequate service. On the other hand, it appears that the city has a reasonable right to select the kind of equipment that it desires to use upon its streets for lighting purposes. *City of Watertown v. Watertown G. & El. Co.* 604, 618.

RATES—EXPRESS.

Changes in block system of rates.
See post, 1.

Reasonableness of rates in particular cases.

1. Complaint was made that the rate of 75 cts. per 100 lb. on laundry moving between Manitowoc and Green Bay was excessive. The rate in question went into effect Feb. 1, 1914, with the interstate commerce commission's block and sub-block plan of rates, and respondent contended that the complaint could not be satisfied without abandoning that arrangement. It appeared that formerly, under the old point to point tariff, the rate was 15 cts. lower than the present rate, and that Green Bay is nearer to Manitowoc than any other point in its sub-block. Under the Commission's first order with reference to express rates (1913, 12 W. R. C. R. 1, later withdrawn in order to make intra-

state rates conform with interstate rates as regards the method of naming rates) the rate between Manitowoc and Green Bay would have been fixed, under scale No. 2, at 60 cts., a rate which would have furnished reasonable compensation. In the present case the rate of 75 cts., based on the interstate commerce commission plan, is the result of one of the defects of that plan, which considers only the sum of sub-blocks east and west and north and south, and fails to take into account short distances on the diagonals, so that in the instant case Green Bay falls just outside the belt of 60 ct. rates, although other stations further from Manitowoc fall within it. While the interstate commerce commission plan contemplates in a general way a 60 ct. belt of rates extending out about 50 miles, the shortest railroad mileage between Green Bay and Manitowoc is only 37 miles, and examination of the situation shows that for practical purposes the express business in the two sub-blocks can be considered as centered at these two main points. As regards the objection to changing the rate in question, because it is based on the interstate commerce commission plan, the fact is noted that in some instances the intrastate block and sub-block rates submitted by the express companies to the Wisconsin Commission, after the change made necessary by that plan, differ materially from the rates which the interstate commerce commission would itself have named had it had jurisdiction. *Held:* The rate of 75 cts. is high for the short distance involved. If defects encountered in the interstate commerce commission plan of rates are due only to a rigid adherence to the method of computation, the defects should be remedied. If the express companies, without jeopardy to that plan, can put in a rate higher than the interstate commerce commission would name, it cannot be maintained that the entire scheme would fall to pieces if a lower rate should be authorized than one which that body would name. The respondent is ordered to discontinue its charges under Scale No. 5 for the transportation of express matter between block 537, sub-block H, and block 538, sub-block O, and substitute therefor the charges under Scale No. 2. *Gray & Zenter v. American Express Co.* 817, 822.

RATES—RAILWAY.

See also REPARATION; SWITCHING CHARGES; TERMINAL CHARGES; various commodity subject headings; WEIGHTS.

Commodity rates.

1. In the instant case the Commission is of the opinion that a rate of 2 cts. per cwt. is an excessive charge because of the character of the commodity moved. The class rate would be prohibitive of the movement of stone tailings. This is recognized by the respondent, and to meet future shipments it has placed in effect a commodity rate of 1.2 cts. per cwt. for distances of five miles, which affords adequate compensation for the transportation services involved. *Carl Frontz v. Mineral Pt. & N. R. Co.* 217, 218.

Concentration rates.

Concentration rates on ore, crushed stone (flux) and coke, Mayville, *see post*, 18.

Demurrage charges.

2. The petitioner alleges that the respondent exacted from it unjust and unwarranted demurrage charges on account of delays in unloading carload shipments of stone at Racine which were occasioned solely by the failure of the respondent to properly fulfill its agreement to provide certain track facilities for the use of the petitioner. There appears to be no provision in the demurrage rules of the respondent which would permit it to make any free time allowance for a delay of the kind

involved in the instant case. *Held:* The charge complained of was unusual and exorbitant. Refund of the amount claimed is ordered. It would seem advisable for the railway companies to amend the demurrage rules to make allowances for delays in unloading cars which are occasioned, as in the instant case, by the failure of the railway company to provide promised track facilities within the time agreed upon with shippers. *Greiling Bros. Co. v. C. M. & St. P. R. Co.* 449, 453.

Demurrage charges—Free storage period.

3. Application was made for an extension of free storage time, during certain periods of the year, on petitioner's shipments of freight received at Bayfield, Wis., over respondent's line. It appears that the petitioners are residents of La Pointe, a town on Madeline Island, about three and one-half miles from the mainland at Bayfield, that during certain periods of the year both the mail service and the carrying of freight across the channel are subject to more or less regular interruption, and that for more than half the year mail service is scheduled for three days per week only. *Held:* The conditions in the present case warrant an exception to the general rule (1797–4). However, as there is evidence before the Commission of like conditions at other points, and as uniformity in charges is desirable where conditions are alike, a recommendation rather than an order will be made. If not adopted, an investigation, on motion of the Commission, making parties all carriers in the state who are members of the Wisconsin Demurrage Bureau will follow. It is recommended that all lines in Wisconsin who are members of the Wisconsin Demurrage Bureau put into effect the rule proposed, or one of similar import, through which, under the conditions stated, additional free time allowance will be made for delay due to infrequent mail service or prohibitive conditions brought about by the weather. *Albright et al. v. C. St. P. M. & O. R. Co.* 763, 765.

Joint or through rates.

4. While nearly all log rates are constructed on the basis of an outhaul of the finished product and are not directly comparable with the traffic under consideration where reshipment is not taken into account, yet upon any proportional allotment of rates, the ones in question are excessive. From the investigation made it appears that a joint through rate not to exceed 4.5 cts., subject to minimum weight of 50,000 lb., would be reasonable in the present case. The respondents are ordered to discontinue their present rates and substitute therefor the rates approved by the Commission. *Webster Mfg. Co. v. C. & N. W. R. Co. et al.* 703, 704–706.

Making rates—Elements considered—Cost of Service.

5. The fact that the movements in question require the use of properties of relatively high value, as compared with other railway property used and useful in the service of the public, and the fact that the bulk of the movements consists of the transportation of raw or partly manufactured materials, the value of the movement of which is not very high to the shipper, make it extremely difficult to apply the cost theory of rate making unalloyed in the instant case. It is, indeed, evident that if each movement were called upon to pay the full estimated average cost of performing the service, including all indirect or overhead costs and dividends, the rates would be so high that many of the movements could not be made. The carrier should therefore be satisfied with a rate which, though it may not cover all the costs arising in connection with each movement, will nevertheless pay all the direct costs and assume a share of the burden of the indirect costs. *In re C. M. & St. P. Switching Rates in Milwaukee,* 261, 270.

Making rates—Elements considered—Cost of service—Terminal and movement expenses.

6. A detailed physical valuation of the terminal properties and a detailed study of transportation movements in the district were made; the total freight expenses were apportioned among "Through", "In", "Out", and "Terminal" movements; and the costs of making the terminal movements were analyzed. An ideal terminal tariff based on cost and on weight and distance is considered. *In re C. M. & St. P. Switching Rates in Milwaukee*, 261, 265.

Manufacturers' rates on raw material.

7. While nearly all log rates are constructed on the basis of an outhaul of the finished product and are not directly comparable with the traffic under consideration where reshipment is not taken into account, yet upon any proportional allotment of rates, the ones in question are excessive. *Webster Mfg. Co. v. C. & N. W. R. Co. et al.* 703, 704.

Reasonableness of rates—Matters considered in determining reasonableness—Competitive status of industries served.

8. Considering both the necessary return to the railway company and the competitive status of many of the industries in the district, an industrial switching rate of 1 ct. per 100 lb., with minimum weights of 50,000 lb. and 60,000 lb. per car, is as high a rate as can reasonably be put into effect at this time. *In re C. M. & St. P. Switching Rates in Milwaukee*, 261, 271.

Reasonableness of rates—Matters considered in determining reasonableness—Cost of Service.

9. It appears that in this case it costs the railroad but little, if any, more to bring the cars back to Milwaukee than it did to take them out in the first place, and the difference of 60 to 70 per cent seems hardly warranted. If the cars had been unloaded at Fond du Lac and Oshkosh as was originally intended, they would have been brought back to Milwaukee empty, since there is practically no movement of loaded gondolas from these points to Milwaukee. The fact that there is very little coal moving into Milwaukee is not sufficient reason, in our opinion, why an occasional shipment of coal should not be given a reasonable rate on the basis of the cost to the carrier of performing the service. *Pennsylvania Coal & Supply Co. v. C. M. & St. P. R. Co.* 746, 748.

Reasonableness of rates—Matters considered in determining reasonableness—Delay due to infrequent mail service or prohibitive conditions brought about by the weather.

See ante, 3.

Reasonableness of rates—Matters considered in determining reasonableness—Nature of traffic.

10. It is impossible to determine what amount of the commodity would have moved in either form. Therefore, to award reparation upon the shipments in question would discriminate against all shippers obliged to pay the regular rates during the period involved unless like reparation were also awarded to them upon demand. It would also be manifestly unjust to the carrier to establish a rule which would have the likely effect of mulcting it in a large amount to satisfy reparation claims not otherwise thought of, simply because the carrier had failed to voluntarily make certain slight reductions in a schedule of rates, to which no previous objection had been made either by any shipper or

the Commission (*Andarko Cotton Oil Co. v. A. T. & S. F. R. Co.* 20 I. C. C. R. 43, 50). Furthermore such a policy would be inimical to the best interests of all concerned, would tend to bring about a rigidity of rate schedules through temerity of carriers to make adjustments required by business conditions, would cause the Commission to hesitate and estimate ultimate consequences before reducing rates in order to stimulate traffic in particular instances, and through shippers' possible overzealousness to recoup alleged excess freight charges might induce a condition militating against the full, fair regulation of transportation charges primarily contemplated by the statute (*Stevens & Jarvis Lbr. Co. v. C. St. P. M. & O. R. Co.* 1907, 2 W. R. C. R. 131, 134). The relief granted in the case upon which this claim for reparation is based was intended as a complete adjustment of the log rate situation there involved, and it was not the purpose of the Commission that the rates there established should have any retroactive effect. Petitions dismissed. *Barker-Stewart Lbr. Co. et al. v. C. & N. W. R. Co.* 628, 631–633.

Reasonableness of rates—Matters considered in determining reasonableness—Quantity of articles shipped.

11. The fact that there is very little coal moving into Milwaukee is not sufficient reason why an occasional shipment of coal should not be given a reasonable rate on the basis of the cost to the carrier of performing the service. *Pennsylvania Coal & Supply Co. v. C. M. & St. P. R. Co.* 746, 748.

Reasonableness of rates—Matters considered in determining reasonableness—Relation of weights.

12. The relation of net weight to the total gross weight of the car is an important consideration. In general coal is loaded quite heavily. The four cars mentioned in the complaint were loaded somewhat lighter than usual, but it so happens that the cars in which the coal moved, were also lighter than the average and that the relation of tare weight to net weight was about normal for coal. *Pennsylvania Coal & Supply Co. v. C. M. & St. P. R. Co.* 746, 749.

Reasonableness of rates in particular cases—Barley, Janesville to Cudahy.

13. The petitioner alleges that the rate of 8 cts. per cwt. which the respondent exacted together with a reconsignment charge of $2 for the transportation of a carload of barley from Janesville to Cudahy was unusual and exorbitant and asks for refund on the basis of a rate of 7 cts. per cwt., which is the rate from Janesville to Milwaukee, plus the reconsignment charge of $2 for transportation from Milwaukee to Cudahy. The respondent contends that the 8 ct. charge was correctly made on the basis of the 7 ct. rate from Janesville to Milwaukee plus a rate of 1 ct. from Milwaukee to Cudahy, but that no reconsignment charge should have been assessed. Since the petition was filed the respondent has put into effect the rate claimed as reasonable by the petitioner. *Held:* The charge exacted was unusual and exorbitant. The reasonable charge for the service is 7 cts. per cwt. plus a reconsignment charge of $2 at Milwaukee. Refund is ordered on this basis. *Owen & Brother Co. v. C. & N. W. R. Co.* 79, 81.

Reasonableness of rates in particular cases—Beer, Wausau to Tomahawk and Minocqua.

14. The petitioner alleges that the charges exacted by the respondent for the transportation of certain carload shipments of beer from Wausau to Tomahawk and Minocqua are exorbitant to the extent that they exceed the rates established in *Wausau Advancement Ass'n v. C. M. &*

St. P. R. Co. 1914, 13 W. R. C. R. 527, and asks for refund. *Held:* The charges complained of were unusual and exorbitant. Refund is ordered on the basis of the rates fixed in the order cited. *Ruder Brwg. Co. v. C. M. & St. P. R. Co.* 508, 509.

Reasonableness of rates in particular cases—Bolts, Manson and Bradley to Merrill.

15. Complaint was made of excess charges on twenty carloads of wood bolts, shipped from Manson and Bradley to Merrill, Wis. It appears that the shipments were billed locally over respondent's line from Manson and Bradley to Heafford Junction, a distance of four miles, at a rate of 3 cts. per cwt., and locally over the line of the C. M. & St. P. Ry. Co. from Heafford Junction to Merrill, a distance of twenty-eight miles, at a rate of 1½ cts. per cwt. Refund is asked on the basis of a 1½ ct. rate. Respondent's tariff applicable to the commodity in question was 2 cts. per cwt. for distances of five miles or less between all points on its line in Wisconsin. The foregoing rate was in effect at the time the shipment moved, and the complaint is not broad enough to warrant an investigation as to its reasonableness. *Held:* The charge of 3 cts. per cwt. exacted on the shipments in question was excessive. The reasonable charge exacted should have been 2 cts. per cwt. Refund ordered on that basis. *Merrill Woodenware Co. v. M. St. P. & S. S. M. R. Co.* 805, 807.

Reasonableness of rates in particular cases—Bottles, Milwaukee to Waukesha.

16. The petitioner alleges that the charge of 7 cts. per cwt. assessed by the respondent for the transportation of two cars of bottles from Milwaukee to Waukesha was unusual and exorbitant to the extent that it exceeds the rate of 5 cts. per cwt. previously in effect and also in effect over other lines between the said points at the time the shipment moved. The respondent alleges that the 7 ct. rate was published in error and asks that the reparation requested be awarded. *Held:* The rate exacted of the petitioner was unusual and exorbitant. The reasonable rate for the service rendered is 5 cts. per cwt. Refund is ordered on this basis. *Franzen & Co. v. M. St. P. & S. S. M. R. Co.* 77, 78.

Reasonableness of rates in particular cases—Box shooks, Marinette to Stanley.

17. The petitioner alleges that it was overcharged for the transportation of a carload of box shooks from Marinette to Stanley. The charge assessed by the respondents was based on a rate of 13 cts. per cwt. from Marinette to Eau Claire and a rate of 5 cts. per cwt. from Eau Claire to Stanley. Since the shipment moved the C. St. P. M. & O. R. Co. has put into effect a rate of 13 cts. per cwt. for shipments from Marinette to Stanley and the petitioner asks refund upon the basis of this rate. *Held:* The charge complained of was unusual and exorbitant. The rate of 13 cts. per cwt. now in effect is the reasonable charge for the service rendered. Refund is ordered upon this basis. *Big Four Canning Co. v. C. St. P. M. & O. R. Co.* 84, 85.

Reasonableness of rates in particular cases—Brick, Mayville.

18. This proceeding is in effect a continuation of a previous proceeding of the same title in which a decision was rendered through error on July 11, 1913, 12 W. R. C. R. 248. The petitioner alleges that the distance tariff rate exacted on shipments of brick within the yard limits of Mayville, from the petitioner's brickyard to the plant of the Northwestern Iron Co., is excessive and unreasonable as compared with flat rates charged other industries for the movement of commodities within

the yard limits. Certain of the flat rates mentioned are a part of concentration rates on raw materials. *Held:* The petitioner's shipments were not entitled to concentration rates inasmuch as the movements involved were purely terminal movements. The rate complained of, however, is unreasonably high. The reasonable rate would have been 1 ct. per cwt. It is ordered that the respondent (1) establish a rate of 1 ct. per cwt.; with a minimum of $6.00 per car, for the switching of cars between points within the yard limits of Mayville; and (2) make refund to the petitioner upon the basis of this rate. *Ruedebusch v. C. M. & St. P. R. Co.* 92, 96.

Reasonableness of rates in particular cases—Car stakes—Rhinelander.

19. The petitioner asks for refund of certain charges exacted from it for the transportation of two carloads of car stakes from Rhinelander to Spur 236, on the ground that the stakes were removed from cars containing logs and were being returned to the original point of shipment of the logs and therefore should have been returned free of charge. It is the custom of railway companies to include the cost of transporting car stakes used in shipping logs in the rate assessed upon the shipment of logs and to return the stakes to the point of origin of the shipment without additional charge. The respondent is willing to make the refund asked. *Held:* The charges complained of were unusual and unreasonable. Refund of the full amount paid is ordered. *Brown Bros. Lbr. Co. v. M. St. P. & S. S. M. R. Co.* 204, 205.

Reasonableness of rates in particular cases—Cheese boxes, Butternut to Glover.

20. Complaint was made of excessive charges on a shipment of wooden cheese boxes from Butternut, Wis., to Glover, Wis., and refund asked. It appeared that subsequently the respondent, the M. St. P. & S. S. M. Ry. Co., voluntarily established a considerably lower rate than that charged petitioner, and that at the time of the shipment it had in effect a substantially lower rate applicable to a substantially similar distance and traffic situation as those in question. *Held:* The rate of 24½ cts. per cwt. exacted of the petitioner for shipment of cheese boxes from Butternut to Glover was exorbitant. A reasonable charge would have been the rate subsequently established or 18½ cents per cwt. Refund ordered on that basis. *Creamery Package Mfg. Co. v. M. St. P. & S. S. M. R. Co.* 761, 762.

Reasonableness of rates in particular cases—Coal (hard coal) Oshkosh and Fond du Lac to Milwaukee.

21. Complaint was made that the rates on hard coal from Oshkosh and Fond du Lac to Milwaukee are unreasonable. It appears that the rate on hard coal from Milwaukee to Fond du Lac and Oshkosh is 75 cts. per net ton, while the rate from Fond du Lac to Milwaukee is $1.20 per net ton, and from Oshkosh to Milwaukee is $1.30 per net ton. From an analysis of the cost of coal movements over the road of the respondent for several years past it appears that the going rate of 75 cts. per net ton to Fond du Lac and Oshkosh allows the carrier to pay all operating expenses and leave something to pay a reasonable return on the investment necessary to carry on the business. It also appears that there is very little coal moving into Milwaukee from inland towns. *Held:* The fact that there is very little coal moving into Milwaukee is not sufficient reason why an occasional shipment of coal should not be given a reasonable rate on the basis of the cost to the carrier of performing the service. The rates in question from Oshkosh and Fond du Lac to Milwaukee are unreasonable to the extent that they exceed the going rate.

Refund is ordered on that basis, and the respondent is further ordered to change its tariff on coal to read "between Milwaukee and" the cities of Fond du Lac and Oshkosh, instead of "from Milwaukee to" Fond du Lac and Oshkosh. *Pennsylvania Coal & Supply Co. v. C. M. & St. P. R. Co.* 746, 749.

Reasonableness of rates in particular cases—Excelsior, Rice Lake to Ft. Atkinson.

22. The petitioner alleges that it was charged a rate of 13.5 cts. per cwt. subject to a minimum weight of 22,800 lb., for the transportation of a carload of excelsior weighing 21,736 lb. from Rice Lake to Ft. Atkinsin and asks that the respondents be authorized and directed to make refund on the basis of a rate of 11.5 cts., subject to a minimum weight of 20,000 lb., which is the rate now in effect between the points named. It appears that the 11.5 ct. rate should have applied to Ft. Atkinson at the time the shipment moved, but that it was, through error, omitted from the tariff. The respondents are willing to make refund. *Held:* The charge complained of was unusual. Refund is ordered on the basis of the 11.5 rate which would have been the reasonable charge for the service performed. *Selle & Co. v. C. St. P. M. & O. R. Co. et al.* 225, 226.

Reasonableness of rates in particular cases—Excelsior, Rice Lake to Superior.

23. The petitioner alleges that charges assessed by the respondent at the rate of 10 cts. per cwt. for the transportation of a shipment of excelsior from Rice Lake to Superior were excessive to the extent that they exceed charges based on the rate of 8½ cts. per cwt., put into effect by the respondent since the shipment moved. The respondent is willing to make refund. *Held:* The charges complained of were unusual. The reasonable rate is 8½ cents per cwt. The refund claimed is ordered. *Selle & Co. v. M. St. P. & S. S. M. R. Co.* 544, 545.

Reasonableness of rates in particular cases—Fuel Oil, Mayville to West Allis.

24. The petitioner alleges that the charge of 12 cts. per cwt. exacted by the respondent for the transportation of a shipment of fuel oil from Mayville to West Allis was exorbitant to the extent that it exceeded the rate of 10 cts. per cwt., put into effect by the respondent since the shipment moved. It appears that the 10 ct. rate was not put into effect earlier for the reason that few if any shipments of fuel oil had been made between the points in question. The rate of 10 cts. is reasonable. *Held:* The charge complained of was unusual. The refund claimed is ordered. *Northwestern Iron Co. v. C. M. & St. P. R. Co.* 577, 578.

Reasonableness of rates in particular cases—Fuel Wood, Deans Spur to Arpin.

25. Complaint was made of excess charge on three carloads of fuel wood shipped from Dean's Spur, Wis., to Arpin, Wis. It appears that the charges were assessed at the rate of 2¾ cts. per cwt., that a rate of 2 cts. per cwt. was in effect at that time on the Chicago & North Western Railway Company from Arpin and other stations in the vicinity, and that subsequent to the shipments in question the respondent established a rate of 2 cts. per cwt. on fuel wood from Grand Rapids, Wis., to Arpin. Petitioner asks refund on the basis of the latter rate. *Held:* A rate of 2 cts. per cwt. on fuel wood moving from Arpin to Grand Rapids is ample compensation for the services rendered. Refund ordered on that basis. *Johnson & Hill Co. v. M. St. P. & S. S. M. R. Co.* 752, 753.

Reasonableness of rates in particular cases—Fuel wood and fence posts, Arpin to Neenah.

26. The petitioner alleges an overcharge on a quantity of fuel wood and fence posts shipped in the same car from Arpin to Neenah, Wis., over respondent's line. It appears the shipment was billed as fuel wood at the rate properly applicable to that commodity. At destination the rate applicable to straight carload shipments of lumber, and articles taking lumber rates, including fence posts, was assessed. This rate does not, however, include fuel wood. *Held:* The fuel wood should have been charged at 3½ cts. and the fence posts at 18½ cts. per cwt. Refund ordered on that basis. *Miller v. C. & N. W. R. Co.* 707, 708.

Reasonableness of rates in particular cases—Ground limestone, Waukesha to Durand.

27. Complaint was made by the petitioner that the charges on a carload of ground limestone, shipped from Waukesha to Durand, Wis., were unreasonable. *Held:* The rates charged were unreasonable and should not have exceeded charges based on rates established by the Commission in *Waukesha Lime & Stone Co., Frank B. Fargo, Agent, v. M. S. P. & S. S. M. R. Co. et al.* 1914, 13 W. R. C. R. 471, supplemented February 7, 1914, for the purpose of making the C. & N. W. and the C. M. & St. P. railway companies parties to the proceeding. The rate charged on limestone for agricultural purposes from Waukesha to Durand, Wis., a distance of 297 miles via respondent lines, should have been 5.10 cts. per cwt. Refund ordered on that basis. *Waukesha Lime & Stone Co. v. M. St. P. & S. S. M. R. Co. et al.* 718, 720.

Reasonableness of rates in particular cases—Hay, Osceola to Rhinelander.

28. Complaint was made of excessive charges on a car of hay shipped from Osceola to Rhinelander, Wis., and refund asked. It appeared that the rate would have been 10 cts. per cwt. had it not been for the omission of the intermediate clause from the tariff in question through an oversight, which was corrected when attention was called to it. *Held:* The charge of 12½ cts. per cwt. exacted of petitioner on the shipment of hay from Osceola to Rhinelander was excessive. A reasonable rate would have been 10 cts. per cwt. Refund ordered on that basis. *Osceola Mill & Elevator Co. v. M. St. P. & S. S. M. R. Co.* 759, 760.

Reasonableness of rates in particular cases—Logs, Bayfield to Washburn.

29. The petitioner alleges that the rate of 3⅛ cts. per cwt. exacted by the respondent for the transportation of four carloads of logs from Bayfield to Washburn was exorbitant and asks for refund on the basis of a rate of 1 ct. per cwt., minimum charge $5 per car, which was in effect at the time the shipments in question moved for shipments from Bayfield to Ashland originating on the Bayfield Transfer Ry. The respondent is willing to make refund. *Held:* The charge complained of was unusual and exorbitant. Refund is ordered on the basis of a rate of 1 ct. per cwt., minimum charge $5 per car, which would have been the reasonable rate for the service performed. *Sprague Lbr. Co. v. C. St. P. M. & O. R. Co.* 289, 290.

Reasonableness of rates in particular cases—Logs, Grandview to Cumberland.

30. The petitioner alleges that the rate of 6 cts. per cwt. exacted by the respondent for the transportation of nine carloads of logs from Grandview to Cumberland was excessive and asks for refund on the

basis of a rate of $2 per 1,000 feet, minimum charge $10 per car. The rate last named was canceled prior to the time the shipments moved but was restored after the shipments moved. The respondent is willing to make refund. *Held:* The rate complained of was unusual, illegal and exorbitant. Refund is ordered on the basis of a rate of $2.00 per 1,000 feet, minimum charge $10 per car, which would have been the reasonable rate for the service performed. *Cumberland Fruit Pkg. Co. v. C. St. P. M. & O. R. Co.* 287, 288.

Reasonableness of rates in particular cases—Logs, Sunnyside.

31. The respondent applies for a rehearing of a matter decided on April 7, 1914, 14 W. R. C. R. 253, on the ground that the rates ordered discontinued were not out of harmony with rates justified by practice and by the approval of the Commission elsewhere in Wisconsin. *Held:* No change should be made at this time in the order in question. The application for rehearing is denied. *Wachsmuth Lbr. Co. v. Bayfield Transfer Ry. Co.* 601, 603.

Reasonableness of rates in particular cases—Logs, Sunnyside to Bayfield.

32. The petitioner alleges that the rates provided by the respondent's tariff of Jan. 1, 1914, for the transportation of logs are excessive and unjustly discriminatory against the petitioner. The petitioner also alleges that many of the cars in use are so defective that they will not carry the minimum weight of 45,000 lb. established by the respondent and complains that the car equipment in general is defective and inadequate and a source of great expense to the petitioner, by reason of the fact that the petitioner is required to replace all cars destroyed in operation and to repair all defective cars. Two questions are considered in deciding the matters at issue: (1) that of rates; and (2) that of the minimum weight of 45,000 lb. The reasonableness or unreasonableness of a given rate cannot be determined by the consideration of any one alone of the several factors which are involved in the matter but the peculiar conditions out of which the rate grew must be taken into account along with the general principles which are recognized as applicable in the establishment of all rates. *Held:* 1. Although the rates complained of are prima facie not unreasonable when the character of the service and the rates charged over other lines for a like service are considered, certain modifications in the tariff should be made to prevent the doing of injustice to the petitioner. 2. The minimum weight of 45,000 lb. per car, in view of the defective condition of many of the cars in use, is excessive. The respondent is ordered to put into effect a tariff on logs fixed by the Commission, subject to a minimum weight of 40,000 lb. per car. On shipments from Sunnyside to Bayfield, inasmuch as the distance involved is but a fraction over five miles, the five mile rate, instead of the ten mile rate as proposed by the respondent, is to apply. *Wachsmuth Lbr. Co. v. Bayfield Transfer Ry. Co.* 253, 255, 260.

Reasonableness of rates in particular cases—Logs, between Van Buskirk and Carson to Superior.

33. Complaint was made by the petitioner that the rates on hardwood logs between Van Buskirk and Carson, in Iron county, Wis., to Central avenue, Superior, were unjust and unreasonable as compared with rates on forest products for similar hauls in Wisconsin traffic, interstate traffic, or Minnesota intrastate traffic. Petitioner alleged that the various carriers of the state had built up a system of rates on logs and other raw material specially designed to keep such raw materials for manufacture on their own lines, and for the reshipment of the finished prod-

uct so far as each carrier could control the movement. *Held:* While nearly all log rates are constructed on the basis of an out-haul of the finished product and are not directly comparable with the traffic under consideration where reshipment is not taken into account, yet upon any proportional allotment of rates, the ones in question are excessive. From the investigation made it appears that a joint through rate not to exceed 4.5 cts., subject to minimum weight of 50,000 lb., would be reasonable in the present case. The respondents are ordered to discontinue their present rates and substitute therefor the rates approved by the Commission. *Webster Mfg. Co. v. C. & N. W. R. Co. et al.* 703, 706.

Reasonableness of rates in particular cases—Logs, Wisconsin points to Peshtigo.

34. Complaint was made of excessive charges on shipments of saw logs from various Wisconsin points to Peshtigo, Wis. It appears that during the period in question the rates in force were slightly higher than those subsequently ordered by the Commission. (*Nor. Hemlock & Hardwood Ass'n v. C. & N. W. R. Co.* 1913, 12 W. R. C. R. 241.) In that order the old rates were readjusted and slightly lowered, and the petition asks for a refund on the basis of the rates thus established. The matter of the reasonableness of the rates in question was considered when they were readjusted and the Commission found that they were a little higher than the circumstances warranted, and so arranged as to apply the same rate for a long series of distances and then jump abruptly to a considerably higher rate. The rates ordered were intended to correct these two conditions, neither one of which was specifically declared to be unreasonable. *Held:* There is not sufficient ground to authorize a refund in the present case. It is only when the Commission finds the rate is unusual, exorbitant, illegal or erroneous that reparation may be awarded. The mere fact that a rate has been reduced by the Commission is not sufficient ground in itself for authorizing refunds. (*Menasha Wooden Ware Co. v. W. C. R. Co.* 1908, 2 W. R. C. R. 589; *Beaver Dam Lbr. Co. v. C. St. P. M. & O. R. Co.* 1908, 2 W. R. C. R. 700; *Merrill Wooden Ware Co. v. C. M. & St. P. R. Co.* 1908, 3 W. R. C. R. 54; *Connor Land & Lbr. Co. v. C. & N. W. R. Co.* 1911, 7 W. R. C. R. 774.) The petition is dismissed. *Peshtigo Lbr. Co. v. C. & N. W. R. Co.* 624, 627.

Reasonableness of rates in particular cases—Logs, Wisconsin points on the C. & N. W. R.

35. Complaint was made of exorbitant rates upon shipments of saw logs in carload lots from various Wisconsin points to the manufacturing points of the fifteen different petitioners. Refund is asked on the basis of the rate schedule ordered by the Commission in *Northern Hemlock & Hardwood Mfrs. Ass. v. C. & N. W. R. Co.* 1913, 12 W. R. R. 241. It appears that the rates ordered by the Commission were considerably higher than the trainload rates that expired February 11, 1913, and slightly lower than the carload rates in place of which they were substituted. Refund is asked on shipments charged the carload rates discontinued by the Commission's order. In the order in question the Commission found that the trainload rates were unreasonably low, but the carload rates were a little higher than the circumstances warranted, and so arranged as to apply the same rate for a long series of distances and then jump abruptly to a considerably higher rate. The rates for carload shipments, until changed by the Commission, had been in effect for a number of years without protest on the part of the shippers, and were availed of by those who enjoyed the special contract rates for trainload shipments, when shipping in less than trainload lots. It was conceded that if the special rates had been in effect during the period

in question, some of the shipments would have moved in carload lots and taken the regular rates applicable to carload shipments, in which event no objection would have been raised to the rates for carload shipments. *Held:* It is impossible to determine what amount of the commodity would have moved in either form. Therefore, to award reparation upon the shipments in question would discriminate against all shippers obliged to pay the regular rates during the period involved unless like reparation were also awarded to them upon demand. It would also be manifestly unjust to the carrier to establish a rule which would have the likely effect of mulcting it in a large amount to satisfy reparation claims not otherwise thought of, simply because the carrier had failed to voluntarily make certain slight reductions in a schedule of rates to which no previous objection had been made either by any shipper or the Commission (*Andarko Cotton Oil Co. v. A. T. & S. F. R. Co.* 20 I. C. C. R. 43, 50). Furthermore, such a policy would be inimical to the best interests of all concerned, would tend to bring about a rigidity of rate schedules through temerity of carriers to make adjustments required by business conditions, would cause the Commission to hesitate and estimate ultimate consequences before reducing rates in order to stimulate traffic in particular instances, and through shippers' possible overzealousness to recoup alleged excess freight charges might induce a condition militating against the full, fair regulation of transportation charges primarily contemplated by the statute (*Stevens & Jarvis Lbr. Co. v. C. St. P. M. & O. R. Co.* 1907, 2 W. R. C. R. 131, 134). The relief granted in the case upon which this claim for reparation is based was intended as a complete adjustment of the log rate situation there involved, and it was not the purpose of the Commission that the rates there established should have any retroactive effect. Petitions dismissed. *Barker-Stewart Lbr. Co. et al. v. C. & N. W. R. Co.* 628, 633.

Reasonableness of rates in particular cases—Lumber, Ashland to Berlin.

36. Complaint was made of excess charges on a carload of lumber shipped from Ashland to Berlin, Wis., and refund asked. The shipment was made on the assumption that the rate over respondents' lines was the same as that over the lines of the M. St. P. & S. S. M. Ry. Co. and the C. M. & St. P. Ry. Co., which is a rate of 12 cts. between the points in question. The establishment of joint rates on lumber was ordered in *Wis. Retail Lbr. Dealers Ass'n. v. C. & N. W. R. Co. et al.* 1909, 3 W. R. C. R. 471 and 589. The petitioner's charge in the present case was based on the sum of the local rates. The fact that a joint rate was not in effect was due to the belief that no shipments of lumber were likely to move between the points in question. *Held:* The rate exacted of petitioner was unusual. A reasonable rate would have been 12 cts. per cwt. Refund ordered on that basis. *John Schroeder Lbr. Co. v. C. & N. W. R. Co. et al.* 823, 824.

Reasonableness of rates in particular cases—Lumber, Cotton to Rhinelander.

37. Complaint was made of excessive charges on six carloads of lumber shipped from Cotton, Wis., to Rhinelander, Wis., for concentration and reshipment. It appears that the rate upon the basis of which the shipments in question were made had been in effect, but remained in effect only through error at the time it was quoted to petitioner, and that an additional sum, on the basis of a higher rate, was collected by the connecting carrier, the respondent M. St. P. & S. S. M. R. Co. Subsequently the original rate quoted to petitioner was reëstablished, and petitioner asks refund on that basis. *Held:* The rate charged petitioner was excessive. A reasonable charge would have been 4½ cts. per cwt.,

the rate originally charged petitioner and since then put into effect by respondent M. St. P. & S. S. M. R. Co. Refund ordered on that basis. *Pierce v. M. St. P. & S. S. M. R. Co. et al.* 754, 756.

Reasonableness of rates in particular cases—Lumber, Hawkins.

38. The petitioner alleges that the charges exacted from it by the respondent on the basis of the regular lumber distance tariff for the movement of ten carloads of lumber within the village of Hawkins are excessive to the extent that they exceed charges based on the switching rate put into effect for such services after the shipments in question moved, and asks for refund. The respondent is willing to make the reparation claimed. *Held:* The distance tariff rate was an exorbitant charge. Refund is ordered on the basis of the switching charge now in effect, which would have been the reasonable charge for the services rendered. *Rusk Box & Furniture Co. v. M. St. P. & S. S. M. R. Co.* 136, 137.

Reasonableness of rates in particular cases—Posts, (cedar posts) Taylor Rapids to Peshtigo.

39. The petitioner alleges that the charges collected by the respondents for the transportation of thirteen shipments of cedar posts from Taylor Rapids to Peshtigo were erroneous and illegal and asks for refund. The charges in question were based on a rate of 8½ cts. per 100 lb., then in effect from Taylor Rapids to Bagley Jct., plus a charge of $3 per car from Bagley Jct. to Peshtigo. At the time the shipments moved a rate of 6½ cts. per 100 lb. was in effect from Taylor Rapids to Marinette and Menominee, Mich., points beyond Bagley Jct. on the C. M. & St. P. Ry., and this rate has since been put into effect over the same line from Taylor Rapids to Bagley Jct. The C. M. & St. P. Ry. Co. is willing to grant the relief asked. *Held:* The charges complained of were unusual and exorbitant. Refund is ordered upon the basis of a rate of 6½ cts. per 100 lb. from Taylor Rapids to Bagley Jct., plus $3 per car from the latter point to Peshtigo, which would have been the reasonable charges for the service performed. *Peshtigo Lbr. Co. v. C. M. & St. P. R. Co. et al.* 188, 189.

Reasonableness of rates in particular cases—Seed peas, River Falls to Columbus.

40. The petitioner alleges that the rate of 32.5 cts. per cwt. exacted by the respondents for the transportation of seed peas in carloads from River Falls to Columbus is exorbitant when compared with rates from other point to Columbus and asks for refund on a certain shipment on the basis of a rate of 20 cts., which is the regular 5th class St. Paul to Chicago rate. *Held:* The rate complained of is excessive and the petitioner is entitled to refund. The respondents are ordered: (1) to substitute for this rate a rate of 20 cts. per cwt. on dried and seed peas in carloads at minimum weight of 36,000 lb. per car; and (2) to make refund to the petitioner on this basis. *Leonard Seed Co. v. C. St. P. M. & O. R. Co.* 97, 101.

Reasonableness of rates in particular cases—Slab wood, New London to La Crosse.

41. The petitioner complains of the rate of 9 cts. per cwt., exacted by the respondent for the transportation of five carloads of slab wood from New London to La Crosse, and asks for refund on the basis of a rate of 4½ cts. per cwt. applying on fuel wood over other lines for a like distance and put into effect by the respondent since the shipments in question moved. The respondent is willing to make refund. *Held:* The rate complained of was unusual and excessive. Refund is ordered on

the basis of the rate now in effect which would have been the reasonable charge for the services rendered. *Browndeer Lbr. & Fuel Co. v. G. B. & W. R. Co.* 138, 139.

Reasonableness of rates in particular cases—Stone tailings, Highland Jct. to Hewetts.

42. The petitioner alleges that the rate of 2 cts. per cwt., exacted by the respondent for the transportation of a car of stone tailings from Highland Jct. to Hewetts, was unusual and exorbitant and prays for refund on the basis of a rate of 1.2 cts. which the respondent has put into effect since the shipment moved. The respondent is willing to make refund. Held: The charge exacted was unusual and exorbitant. Refund is ordered on the basis of the rate of 1.2 cts. now in effect which would have been the reasonable charge for the service performed. *Frontz v. Mineral Pt. & N. R. Co.* 217, 218.

Reasonableness of rates in particular cases—Switching charges —Coal, Green Bay.

43. The petitioners allege that the refusal of the respondent to absorb the switching charges of $2 per car on coal shipped by them to non-competitive points on the respondent's line from the tracks of the C. & N. W. Ry. Co. and the C. M. & St. P. Ry. Co. in Green Bay effects a discrimination against the petitioners by reason of the fact that competing shippers located on the respondent's tracks are not required to pay this charge. There is no uniform practice among the railroads of the state as to the absorption of switching charges nor have the railroads evolved, or sought to evolve, any principle that would serve as a basis upon which to determine what charges are equitable in a given case. The practice of the railroads in this matter has therefore become more or less arbitrary and inequitable. *Held:* The practice of the respondent in the present instance should be discontinued. The respondent is ordered to absorb switching charges on coal in carload lots from Green Bay to non-competitive points upon its lines down to a minimum return of $15 per car, in the same manner as it now absorbs such charges on shipments to competitive points upon its lines. *Barkhausen Coal & Dock Co. et al. v. G. B. & W. R. Co.* 172, 175.

Reasonableness of rates in particular cases—Switching charges Logs—Rhinelander.

44. The petitioner asks for refund of certain switching charges paid on 200 cars of logs shipped to Rhinelander for delivery at the Stevens mill, on the ground that the practice exacting such charges was declared to be unreasonable and unjust in *Stevens Lbr. Co. v. C. & N. W. R. Co. et al.* 1913, 11 W. R. C. R. 476. *Held:* The charges exacted were unusual and exorbitant. No charge should have been made for the switching service rendered. Refund of the amount paid is ordered. *Mason-Donaldson Lbr. Co. v. M. St. P. & S. S. M. R. Co.* 82, 83.

Reasonableness of rates in particular cases—Ties and rails, Lange Spur to Hotchkiss Spur (between Draper and Kaiser).

45. The petitioner alleges that the distance tariff rate exacted by the respondent, in the absence of a switching rate governing the movement, for the transportation of seventeen cars of ties and rails from Lange Spur to Hotchkiss Spur, a distance of 2.1 miles, between Draper and Kaiser, Wis., was exorbitant and asks for refund on the basis of a trackage rate of $1 per car. The respondent is willing to make refund. *Held:* The charge complained of was unusual and exorbitant. Refund

is ordered on the basis of a rate of $1 per car which would have been the reasonable rate for the service performed. *New Dells Lbr. Co. v. C. St. P. M. & O. R. Co.* 186, 187.

Storage rates—Additional free storage time allowed for delay due to infrequent mail service or prohibitive conditions brought about by the weather.

See ante, 3.

Switching rates.

On coal, absorption of switching charges, *see ante*, 43.

On lumber, reasonableness of switching charges, Hawkins, *see ante*, 38. Rhinelander, *see ante*, 44.

46. Though the terminal rates ordered in the instant case should eventually be increased beyond the increase granted by the present order, this cannot be done until certain line haul rates which are now under consideration are finally adjusted. The fact that the rates at present in effect have resulted in the establishment of economic and traffic conditions which it is a serious matter to radically disturb must also be taken into account. The fact that individual shippers find it to their convenience to perform, by means of their own locomotives, services which under other circumstances would have to be performed by the carrier, is no reason for the granting of reductions in rates to such shippers. *Held:* 1. It would appear that the service of transportation includes in the case of carload freight traffic, all the initial and final movements involved in spotting cars upon industry spurs and in handling to and from team tracks and that this service should be paid for in a single rate. Considering both the necessary return to the railway company and the competitive status of many of the industries in the district, an industrial switching rate of 1 ct. per 100 lb., with minimum weights of 50,000 lb. and 60,000 lb. per car, is as high a rate as can reasonably be put into effect at this time. *In re C. M. & St. P. Switching rates in Milwaukee*, 261, 271, 281.

Switching rates—Reduction in.

47. It is contended in behalf of certain shippers that those owning their own switch engines and doing their own spotting and hauling of cars should be given a lower rate than other shippers. This contention assumes that it is the duty of the carrier to perform these services and that, in the event of their being performed by the shipper himself, the latter is entitled to what in practice would really amount to a division of the rate. Legal authorities upon the reasonable limits of the services which railways render as common carriers and which may be said to be included in the reasonable rate are consulted. The costs of the various modes of receiving and delivering both carload and less than carload freight were investigated and the fixed charges, interest and taxes, upon the properties directly involved, such as land, trackage, buildings and paving, were ascertained. These costs were determined per unit of service for each of a large majority of the industries in the Milwaukee Terminal District, for cars originating at team tracks and for cars originating at the freight houses. As between the three services—industry track, team track and freight house—differences in costs are due primarily to differences in the fixed charges upon what may be called the ultimate terminal properties used. The fact that individual shippers find it to their convenience to perform, by means of their own locomotives, services which under other circumstances would have to be performed by the carrier, is no reason for the granting of reductions in rates to such shippers. In view of the provisions of sec. 1797—22.2 of the statutes, the general state of industry in the Milwaukee Terminal

District and other facts brought out in the instant case, the reduction in rates asked for in behalf of shippers doing their own spotting and hauling cannot be granted, for the reason that it would not operate alike upon all shippers. *In re C. M. & St. P. Switching Rates in Milwaukee*, 261, 281–283.

Train rates—Discriminatory tendency of.
See ante, 35.

Transit rates—In general.

48. Where a shipment of grain is entitled to transit privileges and where the shipment is separated at the transit point into two or more shipments, each destined to points taking different rates from point of origin to point of final destination, the application of different rates to the shipment involved is not authorized in the present tariffs. *Blodgett Milling Co. v. C. & N. W. R. Co.* 771, 774.

RATES—TELEPHONE.

Discrimination in telephone rates, *see* DISCRIMINATION, 17–22.

Making rates—Elements considered—Cost of service.
See post, 9.

Making rates—Elements considered—Traffic conditions.

1. Traffic conditions were determined as closely as possible and the annual cost to each company of the service in question was computed. *Held:* In view of the closeness of the exchanges of the Trego and Earl telephone companies, the limited extent of free service furnished by each of the companies, the relatively undeveloped condition of the telephone business in the district served and the fact that the return on the physical investment in the toll line is taken care of for both companies in the return computed from the toll charges allowed, it is advisable to continue the free service now maintained between Trego and Earl. *In re Appl. Trego Tel. Co.* 499, 500–501.

Party line rates.
See post, 13.

Physical connection, terms and conditions of joint use.
See also TELEPHONE UTILITIES, 39–40.

2. On account of the terms of the Anti-duplication Law, ch. 610 of the laws of 1913 (amending sec. 1797*m*—74), which aims to prevent uneconomic competition and duplication, it would seem that no charge in excess of the cost of the service and reasonable compensation should be made to those rural subscribers and patrons of connecting companies who have and could have only the service of one company or the other available to them under the foregoing law. As the cost of making the connections will not be great and the benefits derived will be mutual, each company will be required to pay one-half of the cost. *McGowan v. Rock County Tel. Co. et al.* 529, 538–539, 541.

Reasonableness of advance in rates in particular cases.

3. The Troy & Honey Creek Tel. Co. applies for authority to increase its rates. Subscribers of the applicant object on the ground (1) that the applicant's service is inadequate and (2) that the rates at present in effect are sufficient. A valuation was made, the revenues and expenses were analyzed and the applicant's service over its own system and to connecting companies was investigated. *Held:* 1. The service rendered by the applicant is inadequate. 2. The applicant's present

rates require revision to (a) provide a reasonable return to the applicant and (b) promote the improvement of the service. It is ordered that the applicant be authorized to put into effect a schedule of rates determined by the Commission at such time as it shall have installed and in operation a set of books approved by the Commission and shall have complied fully with all other provisions of the order. The schedule of rates authorized includes flat rates for village and rural telephones and provides that these rates shall entitle subscribers to unlimited service over one of the four toll lines connecting the applicant's exchanges to the foreign exchanges in Mazomanie, Lodi, Plain and Loganville. Subscribers desiring unlimited service over a second one of the toll lines named and subscribers desiring such service over all four toll lines are to pay additional charges. Such calls over the toll lines as are not covered by the schedule of flat rates are to be charged for as specified. Nonsubscribers are to pay 10 cts. per call for all calls. It is further ordered: that all calls to foreign exchanges shall be routed over the through lines where such lines exist, except when the through lines are out of order; that charges be made as specified for the replacing of certain existing substation equipment with other types of equipment; that telephone rentals shall be payable in advance as specified; that the applicant shall submit to the Commission for approval a statement of changes which it proposes to make during the year following the adoption of this schedule, in rearranging party lines so that there will be no more than a specified number of subscribers for each line; and that the applicant shall keep all of its equipment in reasonable repair, preserving a record, open to public inspection, of all trouble occurring on its equipment. *In re Appl. Troy & Honey Creek Tel. Co.* 157, 177.

4. The Ettrick Tel. Co. applies for authority to increase its rates. The schedule which the applicant proposes provides a rate for stockholders lower than the rate for nonstockholders. *Held:* The applicant is entitled to an increase in rates. The proposed discrimination between stockholders and nonstockholders, however, is illegal. The applicant is authorized to put into effect a schedule fixed by the Commission and applicable to stockholders and nonstockholders alike. *In re Appl. Ettrick Tel. Co.* 405, 406.

5. The Badger State Tel. & Teleg. Co. applies for authority to increase its rates for local and rural telephone service at its exchanges in Neillsville and Granton and to adopt new rules to govern the rendering of such service. A valuation of the physical property was made, the property apportioned among the local, rural, toll and switching divisions of the business, and the local and rural property further apportioned between the Neillsville and Granton exchanges. The revenues and expenses of the two exchanges were investigated and the probable revenues from the proposed rates considered. It is a question open to argument whether the rural patrons of a telephone utility should be charged directly with the full burden of fixed charges on the investment in rural equipment or whether part of these charges should be borne by the classes of local subscribers who are reached by the rural lines. *Held:* 1. The rates proposed by the applicant should be approved with the exception of the rate proposed for rural service. This should be placed at $16 rather than $18 per year. 2. The rules proposed by the applicant appear to be reasonable with the exception of certain ones which should be modified. Among others the provision that the applicant will not hold itself liable to furnish party line service unless the line can be kept full to capacity should be rescinded and the applicant should hold itself in readiness to furnish party line service within its exchange limits to all who contract for that service. The applicant is authorized to put into effect the schedule of rates asked for in its application as modified to include the changes prescribed by the Commission. These rates are to apply only on full metallic service. *In re Appl. Badger State Tel. & Teleg. Co.* 407, 416, 418.

6. The Ripon United Tel. Co. applies for authority to increase its rates for telephone service furnished from its exchange in the city of Ripon and to abolish certain charges now in effect for service from Ripon to rural subscribers. The utility proposes to effect improvements in its equipment which will increase its investment and thereby increase the value upon which it should be allowed to earn. The charges which the utility desires to abolish are a charge of 10 cts. per message for communication from the city to a rural phone and the alternative charge of 25 cts. per month for unlimited service from the city to rural phones. No such charges are made for communication from rural phones to the city. The value upon which the utility is entitled to a return was computed upon the basis of a valuation made in July, 1913, for purposes of stock issuance, the cost of improvements since made and the cost of the improvements now proposed by the utility, and the revenues and expenses were investigated. *Held:* 1. An increase in rates is necessary if the city of Ripon is to be given the advantage of the improved service proposed by the utility. 2. The message and flat rate charges to city subscribers for the use of the rural lines should be abolished. The utility is authorized: (1) to discontinue the message and flat rate charges in question; and (2) to put into effect, upon completion of the improvements proposed to be made in the equipment of the utility, a schedule of rates determined by the Commission. *In re Appl. Ripon United Tel. Co.* 427, 432.

7. Two proceedings are involved in this case: (1) the Trego Tel. Co. applies for the establishment of such toll rates and charges as may be reasonable for service between the exchanges in Earl and Trego and service from the exchange in Trego to the exchange in Spooner; and (2) the Trego Tel. Co. petitions for a more equitable division between it and the Earl Tel. Co. of the toll charges collected for the transmission of messages over the line between Earl and Spooner, part of which is owned jointly by the two companies. At present service is free between Earl and Trego and from Trego to Spooner. For service from Spooner to Trego and either way between Spooner and Earl a toll charge of 15 cts. is made. The tolls collected for service between Earl and Spooner are divided equally between the Trego Tel. Co. and the Earl Tel. Co. The Trego Tel. Co. contends that inasmuch as it owns the major portion of the line the division should be made on the basis of 10 cts. to it and 5 cts. to the Earl Tel. Co. An approximate valuation of the lines involved was made and apportioned among the Trego Tel. Co., the Earl Tel. Co. and the Spooner Tel. Co., the latter of which owns part of the equipment used; traffic conditions were determined as closely as possible and the annual cost to each company of the service in question was computed. *Held:* 1. In view of the closeness of the exchanges of the Trego and Earl telephone companies, the limited extent of free service furnished by each of the companies, the relatively undeveloped condition of the telephone business in the district served and the fact that the return on the physical investment in the toll line is taken care of for both companies in the return computed from the toll charges allowed, it is advisable to continue the free service now maintained between Trego and Earl. 2. A toll charge of 10 cts. should be made for calls from Trego to Spooner. 3. The revenue collected from the toll charge of 15 cts. for calls between Earl and Spooner should be divided on the basis of 9 cts. to the Trego Tel. Co. and 6 cts. to the Earl Tel. Co. It is ordered that a schedule prescribed by the Commission and embodying the foregoing conclusions be adopted. *In re Appl. Trego Tel. Co.* 499, 505.

8. Two proceedings are involved in this case: (1) certain stockholders of the Eleva Farmers Tel. Co. complain that the rates charged by the company are inadequate and that stockholders are discriminated against in that they are required to pay the same rentals as other patrons and in addition contribute to cover the deficits from operation; and (2) the

utility itself applies for authority to increase its rates. The value of the property, the revenues and the expenses were investigated. *Held:* The present rates are insufficient. The utility is authorized to put into effect on July 1, 1914, the schedule of rates applied for as modified by the Commission. *In re Appl. Eleva Farmers' Tel. Co.* 586, 589.

9. The Coloma Tel. Co. applies for authority to increase its rates. The value of the property, the revenues and the expenses were investigated. Because of defective accounts it is impossible to accurately determine the cost of service. *Held:* The present rates are insufficient. The rates applied for, however, appear to be higher than necessary. The utility is authorized to put into effect on July 1, 1914, if it chooses, specified rates which represent an increase over the present rates, though not the full increase desired by the utility. Further revision of rates may be made if the experience of the utility, with a proper set of accounts, shows the necessity. *In re Appl. Coloma Tel. Co.* 594, 597.

10. The applicant asks for authority to increase its rate for business telephones in Prescott, Wis. From a consideration of the earnings and expenses of the applicant, it appears that the earnings resulting from the present rates are and will continue to be insufficient to meet the operating expenses of the utility and provide adequately for depreciation and interest. *Held:* The increase asked appears reasonable both in relation to the total earnings of the utility and the service rendered to the class of subscribers involved, and is accordingly authorized. *In re Appl. Prescott Tel. Exchange*, 701, 702.

11. Application was made by the Mosinee Tel. Co. for authority to increase its rates on the ground of increased expenses and inability to earn a reasonable return on the investment. It appears that the proposed schedule provides a lower rate for rural subscribers owning their own telephones than for those who do not, and that the practice has been to make a charge of 10 cts. per call between the hours of 10 p. m. and 7 a. m. with the exception of certain subscribers, who make regular early morning calls to the depot, and who are exempted because the charges otherwise would be excessive. *Held:* The schedule applied for cannot be approved without certain changes. Under the Public Utilities Law (1797*m*—90) all subscribers having the same class of service must be given the same rate. A reasonable rental, however, may be paid those subscribers owning their own equipment. The company is ordered to keep all equipment in repair and pay a rental of 15 cts. per month to all subscribers owning their telephones. In order to avoid unjust discrimination, it is further ordered that all subscribers are to have the privilege of making early morning calls to the depot without extra charge. All other calls between the hours of 10 p. m. and 7 a. m. are to be 10 cts. per call. The respondent is authorized to discontinue its present schedule of rates and to substitute therefor the rates approved by the Commission. *In re Appl. Mosinee Tel. Co.* 709, 712.

12. Application was made by the Marquette & Adams County Tel. Co. for authority to increase its rate for telephone service. It seems that the present rate was put into effect about 9 years ago, and it appears from an inspection of the annual reports filed with the Commission that this rate does not bring in sufficient revenues to meet the operating expense. In the light of the information available the suggested rate of $10 per year does not appear unreasonable. It also appears that the practice has been to leave the repairing of the lines to two directors on each line and that this is an uneconomical arrangement. *Held:* The applicant is authorized to discontinue its present charge of $6.50 per year for telephone service and to substitute therefor a rate of $10 per year. It is recommended that the company employ an experienced lineman to keep the lines in good working order. *In re Appl. Marquette & Adams County Tel. Co.* 750, 751.

13. Application was made for authority to increase rates for telephone service in Cascade, Wis. It appeared that the present rates do not afford a sufficient surplus for interest and depreciation, but that with an increase of 15 cts. per month for two or more party service—there being at present no one party service—the rates would adequately meet requirements with respect to these two items. The suggestion that a discount provision be made in the rates to insure prompt payment of bills is in accord with practice of telephone companies in general and with the holdings of the Commission. *Held:* The respondent is authorized to charge, in lieu of present rates, $1.25 per month for two or more party phones, and $1.50 per month for single party phones, bills to be paid quarterly, subject to a discount of 10 cts. per phone per month to subscribers paying within one month. *In re Appl. Cascade Tel. Co.* 808, 810.

Reasonableness of rates in particular cases.

14. The Ettrick Tel. Co. complains that it is unjustly discriminated against by reason of the fact that its subscribers are compelled to pay a toll charge of 15 cts. per message for service over the La Crosse Tel. Co's line between Galesville and La Crosse while the Western Wisconsin Tel. Co. is allowed to offer unlimited service over this line to its subscribers under a flat rate per year. The Western Wisconsin Tel. Co. and the La Crosse Tel. Co. appear to have an agreement by which toll messages are exchanged between the lines of the two companies and each company retains the tolls for messages originating on its own lines. The flat rate mentioned, $25 per year, covers unlimited service over the entire system of the Western Wisconsin Tel. Co. and free connection to La Crosse and to Winona, Minn. Subscribers of the Western Wisconsin Tel. Co. who pay rates of $12.50 and $15 per year, according to the class of service received by them, pay the same rates for toll service to and from La Crosse as do subscribers of the Ettrick Tel. Co. The two methods of satisfying the complaint are considered: (1) the extension of the $25 flat rate to subscribers of the Ettrick Tel. Co.; and (2) the discontinuance of the rate. It appears that the volume of the toll business passing between the Ettrick Tel. Co. and the La Crosse Tel. Co. is very small, that the offering of unrestricted service over the La Crosse Tel. Co's line between La Crosse and Galesville to subscribers of the Ettrick Tel. Co. under a $25 rate would lead to little use of the rate and that the discontinuance by the Western Wisconsin Tel. Co. of the $25 rate would be of no benefit to the Ettrick Tel. Co. *Held:* The rates complained of are not unjustly discriminatory and the Ettrick Tel. Co. is not burdened unjustly because of their existence. The complaint is dismissed. *Ettrick Tel. Co. v. Western Wisconsin Tel. Co. et al.* 180, 185.

15. The fact that the rates of a telephone company are higher than those of a competing company is not usually sufficient reason for allowing the latter company to parallel the lines of the former company. If the rates of the former company are excessive their reduction should be secured in the usual way by complaint to the Commission. *In re Proposed Extension of West Kewaunee & W. Tel. Co.* 219, 221–222.

16. Inasmuch as the village of Phlox already has adequate telephone connections, it cannot be said that public convenience and necessity require the extension of the Mattoon line for local service into the village. If the toll rate charged by the Antigo Tel. Co. is excessive, the Commission can reduce the rate upon the institution of proper proceedings. *In re Proposed Extension Mattoon Tel. Co.* 329, 331.

Reasonableness of rates—Matters considered in determining reasonableness—Quality of service.

17. In the instant case the value upon which the utility is entitled to a return was computed upon the basis of a valuation made in July 1913,

for purposes of stock issuance, the cost of improvements since made and the cost of the improvements now proposed by the utility, and the revenues and expenses were investigated. *Held:* An increase in rates is necessary if the city of Ripon is to be given the advantage of the improved service proposed by the utility. *In re Appl. Ripon United Tel. Co.* 427, 430, 432.

Reasonableness of rates—Matters considered in determining reasonableness—Rate of return.

18. Application was made by the Mosinee Tel. Co. for authority to increase its rates on the ground of increased expenses and inability to earn a reasonable return on the investment. From an estimate of the operating revenues it is evident that the schedule of rates will not at present yield revenues sufficient to cover the operating expenses and in addition provide a full return on the investment. The respondent is authorized to discontinue its present schedule of rates and substitute therefor the rates approved by the Commission. *In re Appl. Mosinee Tel. Co.* 709, 710–712.

Switching rates.

19. It appears that respondent company did not contribute anything to the support of the switches in question during the two years previous to the disconnection. The respondent proposes to buy the Hub City switch and maintain and operate that and the one at Pleasant Ridge (Rego's switch) for the same fees charged it for switching service by the Richland Telephone Company with whom it connects at Richland Center. *Held:* No good reason is seen why respondent should not bear its proportionate part of the expense of operation, provided it is so arranged that it receives a proper compensation for the service rendered. It is ordered that each of the three companies, complainants, and respondent pay to the operator of the Hub City switch the sum of $1.00 per telephone per year for each telephone on its lines which are or may become, by virtue of the order, directly connected to the switch, and that the Badger Telephone Company and the Hawkins Creek Telephone Company share equally in the expense of the operation and maintenance of the Pleasant Ridge switch. The Hub City switch is owned jointly by complainants and no adequate reason is seen for a change of ownership. Respondent's contention as to the switching fees it should receive does not appear well taken, since the amounts and costs of the service rendered in the two cases are entirely different. The parties to the proceedings are ordered to put in a flat rate charge of $1.00 per year for subscribers electing unlimited service, or a toll charge of five cents per call for subscribers not so electing. Provision is to be made for the record of toll calls, and the collection of charges in the manner prescribed. Calls through the Hub City switch between lines owned by the complainants in this case are to be handled free. Lists of subscribers electing unlimited service are to be kept in the manner prescribed and are to be open to public inspection. All elections of unlimited service rates are to be made at least six months in advance, and prepayment for this service six months in advance may be required so long as no discrimination is practiced between subscribers. Companies not parties to the case may obtain the benefit of these connections and charges by complying with the conditions prescribed. The routing of calls between subscribers of respondent and complainant companies is to be through one of the switches in question, subject to the prescribed exceptions. *Hawkins Creek Tel. Co. et al. v. Badger Tel. Co.* 655, 665–668.

Toll rates.

See also ante, 3, 7, 14, 16.

20. The Trego Tel. Co. petitions for a more equitable division between it and the Earl Tel. Co. of the toll charges collected for the transmission of messages over the line between Earl and Spooner, part of which is owned jointly by the two companies. At present service is free between Earl and Trego and from Trego to Spooner. For service from Spooner to Trego and either way between Spooner and Earl a toll charge of 15 cts. is made. The tolls collected for service between Earl and Spooner are divided equally between the Trego Tel. Co. and the Earl Tel. Co. The Trego Tel. Co. contends that inasmuch as it owns the major portion of the line the division should be made on the basis of 10 cts. to it and 5 cts. to the Earl Tel. Co. *Held:* A toll charge of 10 cts. should be made for calls from Trego to Spooner. The revenue collected from the toll charge of 15 cts. for calls between Earl and Spooner should be divided on the basis of 9 cts. to the Trego Tel. Co. and 6 cts. to the Earl Tel. Co. *In re Appl. Trego Tel. Co.* 499, 504–505.

RATES—WATER.

Discrimination in water rates, *see* DISCRIMINATION, 4–6.

Fire protection rates.

1. An analysis of the operating data indicates that the city is not paying as much as it should for fire protection, while other consumers are paying an excess sufficient to meet the deficiency from the fire service and leave a large surplus besides. The present annual charge for fire service protection should be increased. The total charge for public service, which includes fire service and public use of water should be paid in a lump sum per annum and should amount to the cost as determined. *Dennet et al. v. City of Sheboygan*, 634, 643, 649.

2. With respect to the charge for fire service, the Commission has repeatedly pointed out that this charge is determined principally by the amount of the investment apportionable to that branch of the service. Respondent's contention that a considerable part of the property in the city is beyond the fire protection limits, is not without merit. When conditions are normal, it is undoubtedly correct for cities to bear the cost of fire protection. However, in the present case it has seemed that the manner in which the fire protection cost should be borne should not be prescribed by the order. The respondent is ordered to discontinue its present rates for metered water and substitute therefor one of the three schedules proposed according to the amount it desires to assume toward bearing the burden of fire protection. *Hughes et al. v. Watertown Water Works*, 669, 682, 683.

Fire protection rates—Private.

3. If the furnishing of private fire protection service by a water utility which furnishes general or public fire protection constitutes a proper basis of charges, those who have it and who also use water regularly for other general purposes must unquestionably pay for both kinds of service. But there is some question as to the extent to which the furnishing of private fire protection by a public utility constitutes a basis of special and individual charges. In several previous cases decided by this Commission it was held that individuals, firms and private corporations are not to be charged separately for any hydrant rental. The furnishing of fire protection of that character is clearly a function of the city. (See *In re Appl. Oconto City Water Supply Co.* 1911, 7 W. R. C. R. 497, 568; *City of Beloit v. Beloit Water, Gas & Electric Co.* 1911, 7 W. R. C. R. 187, 341; etc.) Inside private fire protection, such as water service to automatic sprinklers and fire hose connections inside

of buildings is a somewhat different form of protection. It is usually more quickly gotten into service when a fire starts and is universally considered as being more efficient than the use of ordinary fire hydrants by the fire department. Its presence frequently obviates the use of the outside hydrants and any work on the part of the firemen. It being usually more efficient in fire fighting, its installation produces a saving to the property owner through a reduction of insurance rates. It is of value to all concerned, but particularly to the property owner served. That it is of value to others may, under some circumstances, warrant the elimination of charges for such service, but the necessary circumstances do not exist here. It is rather difficult to find a strictly logical and impregnable basis upon which to apportion to private fire protection service any definite amount of the expenses of the utility in this case, yet there is probably a more logical basis for the gradation of reasonable charges for such service than the basis of floor area adopted by the company in formulating its present rate schedule. The floor area basis takes no account of the differences in property values per unit of floor area in different cases, or of the inflammability of the building and contents, the size of water service connection and the consequent demand for water put upon the utility in case of fire, or of various other differences. Probably the most logical basis of such charges as may be made for private fire protection service is primarily that of the sizes and relative capacities of the connections from the mains, making due allowance for such constant or uniform expenses of the utility as cost of inspection, etc., and for the possible use of water, to the extent of undetected leakage at least. Experience seems to make it perfectly clear that fire services require close inspection and supervision and that they should be metered. The cost of the meter and its installation and maintenance should be paid by the recipient of this special fire protection service, which is entirely different from the commercial service. Meter rates and service charges for private fire protection cannot properly include a very material capacity charge for the reason that the demand put upon the utility by the emergency use of private fire service facilities is simply a portion of the general fire service demand provided for in the public hydrant rental. Any fire occurring in an establishment not provided with the more efficient fire apparatus is very likely to put upon the water utility a greater demand, both in rate and duration, through the public hydrants, than would occur if the establishment were so equipped with special fire apparatus. The general fire service requirements and the utility expenses charged to these requirements cannot well be apportioned to individual private buildings. If the costs of metering a private fire service connection be paid by the water utility there is a sound basis for a charge sufficient to at least cover the capital charges on the meter and the expense of its maintenance. This will be an unquestionably valid charge and will be larger than the probable cost of periodic inspections of private fire protection systems supplied on the flat rate basis. The charge for metered service of this kind should be less than that for unmeterd service, provided, however, that no water is used except for fire protection. In the light of all the known facts and circumstances, of both general and special nature, attendant upon this class of service in Ashland, it is believed that the costs of fire service meters and their installation should be paid by the recipients of such service, and that the rates and charges for metered and unmetered private fire service should be as hereinafter provided and ordered. *In re Invest. Ashland Water Co.* 1, 70–72.

Fire protection rates—Public.

4. The city has not only had its fire protection service at less than cost but it has also had free of charge a large amount of water which has been supplied to the public schools, police and fire department stations, city hall, public fountains and troughs and the like. This water

has been held to be covered by the hydrant rental but the city should have paid for it separately. *In re Invest. Ashland Water Co.* 1, 60.

Flat rates.

5. It is to be remembered that the output costs are but a relatively small part of the total expense of water works service, so many large items are entirely independent of the amount of water used, therefore the amounts of water actually used by the various flat rate takers individually are of less importance than may seem, to some, to appear. *In re Invest. Ashland Water Co.* 1, 69.

6. Under the flat rates now in effect there appear to be a number of unjust discriminations due to failure to take into account the number of rooms and the number and kinds of fixtures in determining charges for service to particular consumers under the schedule. It also appears that the utility has not made any distinction between consumers with, and consumers without sewer or cesspool connections. Consumers having such connections, will in general undoubtedly use more water than those not having them. There may be something to be said against a charge based on the number of rooms but the number of rooms is apparently one of the elements which should enter into a flat rate schedule, and periodic inspections should be made of consumers' fixtures for the purpose of keeping informed as to the number and kinds of fixtures in each place supplied with water service. *Town of Vaughn v. Hurley W. Co.* 291, 304–306.

7. Flat rates in many instances have proven to be exceedingly inequitable and unsatisfactory to both the consumer and the utility. It has been shown to be practically impossible to do justice to either party. If a rate is made upon an arbitrary basis, the unknown element of waste, which is always present, must be estimated and allowed for; the number and various kinds of openings, the number of persons each service supplies must be carefully ascertained. Thus the careful, economical and proper user of water is required to pay for the waste of his neighbor, which is manifestly unjust to him. There are certain classes of flat rate users for whom no flat rate can be made that will be equitable. A rate based upon fixtures can never be satisfactory for consumers such as stores, saloons, resturants, etc., the amounts used being dependent upon the elements other than the nature and number of fixtures. Even among residence consumers, when the same number of fixtures are installed, the amounts of water used vary enormously, depending upon the degree of care exercised by the consumers, their attitude towards the utility, the condition with regard to sewer connections, the leakiness of fixtures, etc. While in the instant case the general installation of meters has not been required, this omission should not be taken to signify that the Commission approves the flat rate plan. The Commission recognizes, however, that under special conditions the advantages of installing meters are not sufficient to offset the additional cost. *Dennett et al. v. City of Sheboygan*, 634, 648, 649.

Free or reduced rate service.

8. The Public Utilities Law does not permit a difference in charges for like service between consumers who own their meters and those who do not. *In re Invest. Ashland Water Co.* 1, 68.

Hydrant rental.

See ante, 1–2, 4.

Making rates—Elements considered—Cost of service—Classes of consumers.

9. Since the proper determination of rates must be based upon a normal statement of expenses, it is necessary to make comparisons of the

annual operating expenses through a period of years and determine the normal amounts. These will not necessarily be the exact figures for the most recent fiscal year, nor should they necessarily prove to agree with the actual costs for the current year at its close. They must also be such as may appear to indicate reasonably efficient operation and management as measured by results obtained elsewhere, due allowance being made for difference in operating conditions. The several items of expense should be equitably divided between public and private service, and the portions charged to the latter should be further separated into other subclasses so that each private consumer will contribute as nearly as practicable his just proportion of the total cost of service. The methods pursued in making such distributions of expenses have been so fully explained in previous decisions of this Commission in rate cases that it would be superfluous to explain them again here. *In re Invest. Ashland Water Co.* 1, 54, 55.

Making rates—Elements considered—Cost of service—Output, capacity and consumer costs.

10. To leave interest, taxes, depreciation and certain operating expenses entirely out of the output costs and charges, and to put them wholly in the service or fixed charges against consumers would result in an impracticable schedule, as the fixed or service charges would be greater than the value of the service to the smaller consumers. Previous decisions of this Commission in similar cases have indicated that in making rates for private service the best treatment of the private service portions of the interest, taxes and depreciation is, usually, to divide their sum between capacity, output and consumer costs in the same proportions as the operating expenses are so divided. *In re Invest. Ashland Water Co.* 1, 61.

11. A small user does not make the same demand on a utility that a large user does, nor would a large number of small consumers put the same load on the plant that would be put upon it by the same number of large users. Obviously, one by whom the utility may be called upon to furnish 50 gallons or more per minute may reasonably be required to bear a materially greater share of the capacity expenses than one who will never use more than 10 gallons or less per minute. A strictly accurate measure of the maximum demand of each and every consumer is not obtainable. The nearest possible approach to it has been held to be the meter capacities, and yet some consumers will actually use more nearly all of their meter capacities than others having the same size of meters. The result of the analysis and apportionment made is a schedule which, for practical considerations, requires some modification. The fixed or service charges are probably too burdensome to a large number of small users and together with the output costs for water used will doubtless make the total expense for water service seem out of proportion to its value. It is therefore essential that the capacity and consumer expenses of metered service be reduced by transferring a portion of them to the output expenses. *In re Invest. Ashland Water Co.* 1, 65, 66.

12. Each of the various departments of the service should bear its proper burden of expense. The total operating expenses of the plant must be distributed between that class which depends on the output of water and varies with this output and that class which is independent of this output and which does not vary with it. These expenses in turn must be apportioned between the commercial and industrial service and the fire service. *Hughes et al. v. Watertown Water Works*, 669, 674.

Making rates—Elements considered—Cost of service—Pumpage lost and unaccounted for.

13. In every water works system there is a considerable amount of the total pumpage which is lost and unaccounted for, due chiefly to

unknown and unavoidable leakage. The investigation in a number of cases appear to demonstrate that a substantial fraction of the total pumpage must be eliminated from consideration in determining the unit output charge in a rate schedule. The output expenses must be assessed against the amount of pumpage which can be reasonably shown to be used by the city and its citizens and for which collections may reasonably be expected. *In re Invest. Ashland Water Co.* 1, 59.

Making rates—Elements considered—Cost of service—Taxes.

14. It is understood that under the terms of the original franchises the utility was exempted from local taxation. The legality of such an exemption is a serious question. Property in Hurley appears to be paying about 4 per cent of its value in taxes. In the future the water plant in this case will doubtless be required to pay taxes in the same way, and provision must accordingly be made for that expense in the rates. *Town of Vaughn v. Hurley W. Co.* 291, 302.

Making rates—Elements considered—Development and retention of business.

15. While the past net earnings are unquestionably less than would constitute a fair return, the making of a new rate schedule which will provide more equitable returns is a matter for very serious consideration. The greater the increase in existing rates the greater will be the tendency to not only check development of new business but to lose some of the company's present consumers and revenue. There is, therefore, a practical limit beyond which earnings cannot possibly be made to go, even though this limit may not provide a fair and reasonable rate of return on the full value. The question of the value of the service demands consideration in any case wherein rates equitable to the company may appear to consumers to border on the burdensome. The consumers will naturally be the ultimate judges as to the value of the service in cases where other supplies are available and between which and the general city system a choice may be made. There is evidence before us that many citizens already depend upon bottled spring water for drinking purposes. *In re Invest. Ashland Water Co.* 1, 50, 52.

Making rates—Elements considered—Future additions.

16. It does not appear equitable to make present consumers contribute through the rates such large amounts towards future additions and towards retirement of present obligations as was suggested at the hearing in this case. Again, the probability of a cycle of hard times occurring later, as was also suggested during the hearings in this matter, should not be made the justification for saddling present consumers with rates through which a surplus fund may be built up to carry the plant over the period of decreased revenue. *Dennett et al. v. City of Sheboygan,* 634, 642.

Meter rates—Straight meter rates.

17. Objection is sometimes offered to the policy of supplying large consumers at low rates. Watertown furnishes a clear illustration of the advantages of such a policy. There is no question that if four or five of the largest consumers should discontinue the use of water from the city system the utility would be unable to meet its operating expenses and fixed charges. If water were supplied to all users at a uniform rate the very large users would doubtless find it cheaper to furnish their own supplies than to buy water from the city. The nature of the waterworks business is such that a few very large users, supplied at what may appear to be very low rates, sometimes enable general users to secure rates much more advantageous than would otherwise be possible. An illustration of this is the rate fixed by the Commission

in the *Sparta Case*, 12 W. R. C. R., 532–546. *Hughes et al. v. Watertown Water Works*, 669, 686.

Meter rental.

18. A proper rental to be paid by the city in cases where consumers own their meters should cover the elements of cost of which the city is relieved by the fact that meters are furnished by consumers. These costs are the interest, depreciation and taxes on the meters. *Alter et al. v. City of Manitowoc*, 690, 695.

Minimum charge.

See also post, 22.

19. As practically every consumer paying the minimum bill has used considerable water during the period and hence incurred some output expenses, the minimum bill to be charged must include an allowance for this consumption. If this is not done all water used would really be received free of charge. By computing taxes, depreciation and interest on the value of the meter, adding thereto proper maintenance charges and a fair allowance for water used, a minimum charge can be determined with considerable accuracy that will guarantee to the company its consumer expenses. The minimum charge, however, cannot be fixed regardless of the size of meters or the consumer's demand, as that would ignore the fact that the size of the meter determines whether the investment is large or small. Discrimination results, if the minimum charge is made an average amount, against the consumers who use the small sizes. *Hughes et al. v. Watertown Water Works*, 669, 680.

Partial metering.

20. The Commission does not recommend complete metering in this case, but a gradual extension of the meter system is undoubtedly desirable and the meter rates should be so adjusted that, with the extension of the meter system, the rates will be suitable for the changed conditions, so far as it is possible to secure this result. *Town of Vaughn v. Hurley W. Co.* 291, 307.

Reasonableness of advance in rates in particular cases.

21. The Commission, on its own motion, investigated the rates, rules and regulations of the Ashland Water Co. after receiving informal complaints from patrons of the utility (1) against the utility's practice of requiring certain classes of consumers to furnish their own meters if they desired to be served on the meter basis and (2) against the character of the water supplied by the utility. In the course of the proceedings the utility itself filed a petition for such a revision of rates as might be necessary to (1) afford a fair return to the utility upon the property used by it in serving the public and (2) establish rates which are more equitable than the rates now charged in their relations as between private and public consumers. The most serious complaint against the utility appears to be that with respect to the quality of water furnished. The water in question is taken almost entirely from Chequamegon Bay of Lake Superior and is exposed to contamination from the sewage of the city which empties into the bay. The utility operates sand filter beds and applies the hypochlorite of lime treatment in order to purify the water. The peculiar circumstances of the case seeming to require it, the Commission had a special investigation and report made by an expert in matters of municipal water supply. The report so made holds: (1) that the city of Ashland is in constant danger from the present source of its water supply; (2) that it is impracticable to secure a supply of pure water by artificial treatment from the present source of supply and, further, that this source will undoubtedly be necessary in the future as a receptacle for industrial sewage from

pulp and paper mills and the like; (3) that it is impracticable for the city of Ashland with its present resources to attempt to secure water from Lake Superior, which is the ideal and ultimate source of supply for any large community located at Ashland; and (4) that it would probably be possible to meet the present needs of the city by resorting to the use of wells to obtain ground water. The report therefore recommends that test wells be driven and that tests be made at certain specified locations near the city to ascertain the best source of ground water supply. In order to determine the rate matter presented by the petition of the utility, the Commission made a valuation of the property of the utility and investigated its revenues and expenses. In making the valuation, a tentative valuation made by the engineering staff of the Commission by revising a valuation prepared in 1908 for the case of *City of Ashland v. Ashland Water Co.* 1909, 4 W. R. C. R. 273, a valuation submitted on behalf of the city of Ashland, and two valuations submitted by the utility are considered and compared in detail. The utility shows a relatively high investment in physical property as compared with other water plants in Wisconsin. This is due largely to the nature of the source of the water supply. The utility has, until recently, failed to maintain a depreciation reserve. An apportionment of expenses was made between public and private service. *Held:* 1. The net earnings of the utility have been too low to constitute a fair return upon the value of the property used in serving the public. The utility is not in such a financial position as to be able to meet the demand for improvement in the quality of water furnished the public by extending the intake to a point in the lake where satisfactory water could always be obtained or to change to a ground water supply. The only plan which it is possible for the utility to adopt under the circumstances is that of installing a suitable water analysis laboratory at the pumping station and employing a competent person to take charge of the laboratory and intelligently supervise the filtration and disinfection of the water supply. Even this plan is not certain of success but the additional expense involved by its use is not large enough to make it too costly to be worth a trial. The cost of applying more scientific treatment to the water purification problem should, however, be properly provided for in the determination of new rates for future service. 2. The greater portion of the deficiency in the net earnings of the utility is reasonably chargeable to the public service and the remainder to the flat rate private service. The meter rates have yielded a fair proportion of the costs but the meter rate schedule is not of the most logical and desirable form. The utility's rules and practices in regard to the furnishing of meters to consumers are reasonable. The unusually but necessarily large investment of the utility requires the exaction of rates materially higher than ordinary water rates. It is ordered: (1) that the utility within sixty days make such arrangements as may be found necessary to give it the benefit of a suitable laboratory for water analyses in the city of Ashland and thereby keep itself continually informed as to the efficiency of its purification processes by analyses made at least once daily, complete records of such analyses to be permanently preserved; and (2) that the utility discontinue its present schedule of rates and adopt a schedule fixed by the Commission. The schedule of rates prescribed provides for an annual charge of $24,300 for municipal hydrant rental, including general fire protection and flushing of sewers and pavements until extended; a charge for extensions ordered by the city of 8 cts. per foot of mains per annum and $6.50 per additional public fire hydrant per annum; meter and output charges and flat rates for private consumers; and charges for both unmetered and metered private fire service to automatic sprinklers or standpipes inside of buildings. No output charge is included in the charges for metered service for inside fire protection when the water is actually used in fire fighting, otherwise the water used through inside fire protection systems is sub-

ject to the rates for commercial service. It is suggested that the city test the merits of the plan of disinfecting its domestic sewage at the sewer outlets as a method of coöperating with the utility in improving the quality of water furnished by the utility. *In re Invest. Ashland Water Co.* 1, 76.

22. The Water Department of the city of Oconomowoc applies for authority to establish an annual minimum charge of $5. The utility has been exacting this charge for a number of years although, apparently through a misunderstanding, it had not filed the charge with the Commission as a part of the original rate schedule. The equitableness of the charge is not questioned, and as there is no reason to believe the charge unreasonable, the application is granted. *In re Appl. Oconomowoc Water Dept.* 394, 395.

23. The city of Ashland petitioned the Commission for a rehearing in its investigation of the rates, rules and regulations of the Ashland Water Co., and a modification of its order in that case (February 17, 1914, 14 W. R. C. R. 1). The city contended that the value of the property of the company found by the Commission, and the rate of return contemplated by it in the schedule of new water service rates prescribed in the order in question were in excess of what was warranted under the circumstances of the case and that the result was an unduly high schedule of charges for water service. Consideration of actual costs in the present case was apparently condemned by the city on account of the excessive value reached by the president of the company through a misapplication of the method of fixing value by actual investment. With respect to the physical property values the amounts allowed by the Commission for hydrants, filters, overhead general expenses, operating capital, pipe laying, and services were particularly challenged. The rate of return contemplated by the schedule established February 17 was inferred by the city to be 5.8 per cent, and it was argued that such a return was far more than was justifiable under all the circumstances of the case; that any real estate owner in Ashland would now be amply satisfied with a net return of 4 per cent; and that a proper rate of return would be one not to exceed 4 per cent upon a reasonable estimate of the costs of reproduction, with increase later, if equitable, as town and business grew, to compensate for any present deficiency. It appears that conditions in Ashland are abnormal. The city covers an area that in size is out of proportion to its population and industries, and the population for some time has been decreasing rather than increasing. The cost per capita and per customer of the Ashland Water Works is about twice as great as the average of these costs for other Wisconsin cities, and the city officers feel strongly that the company should share with all other citizens and the city at large the effect of the abnormal conditions prevailing in Ashland. The fact that the present plant was largely built by bonds bearing six per cent interest is noted, and it is further noted that these bonds were necessarily sold at a discount, and that the city of Ashland itself has been paying 5 per cent interest on most of its own bonds. It seems that the city's expert placed the rate of return for interest and profit at 6 per cent on the fair value of the plant and business and not at a higher figure, on the ground, in his own words, "of the fact, now generally recognized, that under the Wisconsin Commission the operation of public utilities is attended with less hazard than is usually incident to such business elsewhere"; that the Commission itself allowed earnings that would yield not far from 6 per cent on the estimated fair value of the investment; and that in doing so the Commission did not place them at a higher figure, such as would have represented ordinary returns for capital similarly invested, because of the exceptional conditions prevailing in Ashland. *Held:* The valuation of a property on the basis of actual investment as one of the theories of valuation does not contemplate the substitution of estimates of cost of reproduction in place of the orig-

inal and actual costs. A method which has long received the favorable consideration of the courts as one of the reasonable methods to be applied when possible should not be condemned simply because, through misapplication in certain cases, extravagant results may have been obtained. No weight can be given to results which are clearly and fundamentally erroneous. The city's apprehension that the Commission may have been influenced by the abnormally large valuation derived by the company's president is therefore unfounded. With respect to the physical property values, the difference between the cost of the hydrants now in use, and the cost of types of similar sizes regularly made and commonly carried in stock, should not be charged off as depreciation due to obsolescence, as contended by the city, since the company's judgment as to the superiority of the more expensive hydrants is not proven to be in error. The valuation formerly found for the hydrants is therefore allowed to stand. As regards the filters, the values arrived at by the city and the Commission are not so far apart that either can be considered very unreasonable. However, possibly a somewhat smaller amount should have been allowed as the cost of reproduction new of this item, though certainly not as much as intimated in the city's argument. A certain reduction is accordingly made in the allowance for the filters. The allowance of 15 per cent for overhead general expenses is not a greater allowance proportionately for that element of cost than has been made by the Commission in certain other cases of utility valuations, and no reason is seen why it is more than a proper addition in the present case. It is not clear that the amount formerly allowed as working capital can properly be reduced. In addition to meeting current operating expenses, the company must be prepared at all times to make extensions and improvements demanded as well as to take care of unusual emergencies which may arise. In the light of the arguments and additional evidence the conclusion is reached that the unit prices for pipe-laying used in the staff's 1912 valuation and accepted in arriving at the total valuation found by the Commission in its decision of February 17, 1914, are unduly liberal, and the allowance for pipe-laying is accordingly reduced. The aggregate amount of the tapping and connecting charges for services in the previous decision should possibly have been and is now deducted from the plant value, and, such being the case, must also be eliminated from non-operating revenues. After making due allowances for pipe and labor paid for by consumers, and for increased number of services in 1913 over 1912, the result of the staff's valuation of services is substantially in agreement with the result reached by the city's expert, and the latter's value is believed a fair one to adopt. The net result of all changes is to reduce the valuation of the physical value of the property $21,695 reproduction cost, and $20,503 present value. The total value, due consideration being given to a sum of $7,500 charged into a depreciation reserve, to working capital and going value, can hardly be regarded as materially less than $480,000. Should it be disclosed that the book costs, upon which the reductions in the value of the physical property are mainly based, were not correctly stated upon the records of the company, proper corrections may be necessary later. *Held:* That the rate of return must take into consideration the abnormal conditions existing in Ashland, and that under such conditions it could not possibly be made as large as what would be considered reasonable under normal conditions, was fully recognized by the Commission in its previous order. On the other hand, the city can hardly claim with reason that the company will receive equitable treatment if it be allowed a smaller rate of interest than the city has had to pay on its own bonds. Had the city owned the waterworks, it is quite certain that, pledging the property of the plant only, it could not have obtained the required capital at a lower cost than that for which the present owners obtained theirs. The cost of capital and the enterpriser are fixed by economic forces, or laws in the open market, which

cannot be controlled by the state, the city, or the Commission, and, in spite of the marked tendency of the operation of the Public Utilities Law to reduce the risks and lower the cost at which capital can be had, the downward tendency is not always great enough to offset the abnormally low relative earnings sometimes encountered, and it has not been great enough to cause capital and the enterpriser in the public utility field to become so abundant that these factors can generally be had at as low a cost as 6 per cent on the investment. In fact, plants whose net earnings amount to less than about 7.5 per cent on the investment find it difficult to obtain the capital needed on reasonable terms. Were the conditions involved in the present case normal, the Commission would not hesitate to allow a sufficient amount in the way of earnings to cover the full cost of the necessary capital and managing ability as fixed in the open market under similar conditions. Such allowances are undoubtedly best in the long run for all concerned, as they result in an abundant supply of the factors of production, instead of restriction, and the promotion, rather than hindrance, of general development and prosperity. Under the abnormal conditions at Ashland, however, both the water company and its customers will, for the present at least, have to forego something to which they would otherwise be entitled. It is therefore deemed just and equitable to all concerned to temporarily alter the schedule of rates established by the order of February 17, 1914. It is ordered: 1. that the charge to the city for hydrant rentals be reduced from $24,300 to $21,000 per annum; 2. that the flat rate part of the schedule for residence and commercial users be reduced by a somewhat smaller amount to the rates named in the present order. *In re Invest. Ashland Water Co.* 721, 742.

Reasonableness of rates in particular cases.

24. The petitioner alleges that the respondent's rates for water are unreasonable and exorbitant and that the respondent's service is inadequate both as to the pressure maintained for fire fighting and as to the quality of the water supplied for domestic use. The respondent renders service in Ironwood, Michigan, as well as in Hurley and its pumping plant is located in Ironwood. A valuation was made of the physical property devoted to the service of Hurley, the property in joint use being apportioned between Hurley and Ironwood. It is impossible to accurately determine the amount to be allowed for going value, as the present owners have been in control of the plant for but a little more than two years and are therefore in no position to show complete financial records of its operation. It appears, however, that a total valuation of from $37,000 to $38,000 is about correct. The revenues and expenses were investigated and the expenses apportioned between the two communities. The expenses for Hurley were analyzed and apportioned as closely as possible in the absence of complete data between capacity expenses and output and consumer expenses and between fire and general service. The Commisison does not recommend complete metering in this case, but a gradual extension of the meter system is undoubtedly desirable and the meter rates should be so adjusted that with the extension of the meter system they will be suitable for the changed conditions so far as it is possible to secure this result. Under the flat rates now in effect there appear to be a number of unjust discriminations due to failure to take into account the number of rooms and the number and kinds of fixtures in determining charges for service to particular consumers under the schedule. There may be something to be said against a charge based on the number of rooms but the number of rooms is apparently one of the elements which should enter into a flat rate schedule and periodic inspections should be made of consumers' fixtures for the purpose of keeping informed as to the number and kinds of fixtures in each place supplied with water service. *Held:* 1. With respect to the complaint as to fire protection service, the evidence does not

clearly show that the respondent was at fault in the cases of the fires which gave rise to the complaint, but, to avoid a repetition of the difficulties met, both the respondent and the community might well have their own independent pressure recording gages connected by special service pipes to the Hurley mains. 2. Inasmuch as the installation of a purification plant has noticeably improved the quality of the water supplied for domestic use and inasmuch as there is no evidence that laboratory or other additional facilities are urgently needed, an order for the installation of such additional facilities is not advisable at this time. 3. The present schedule of rates should be abandoned and a new schedule adopted which will eliminate certain unjust discriminations and result generally in a marked reduction in charges. The respondent is ordered: (1) to be prepared at all times to meet the reasonable fire service demands of the village of Hurley, to furnish the necessary number of hose streams under adequate pressure at the hydrants, and, for the purpose of showing the pressure maintained at any and all times, to install and keep in service at a central location on the Hurley pipe system a suitable pressure recording gage, the original daily records made by the gage to be filed and preserved for future ready reference; and (2) to put into effect a prescribed schedule of rates providing a charge for municipal service and meter and flat rates for commercial service. Sixty days is deemed sufficient time within which to comply with the section of the order which relates to service. *Town of Vaughn v. Hurley W. Co.* 291, 314.

25. Complaint is made that the rates charged by the Elroy Mun. W. & Lt. Plant for electric current and water are discriminatory and insufficient and that the records and accounts relating to the operation of the utility are unsystematic and unsuitable and not in accordance with the rules prescribed by the Commission. A valuation was made and the revenues and expenses were estimated, in the absence of satisfactory records, upon the basis of such information as was available. The expenses so estimated were apportioned for the electric department between capacity and output and further apportioned between street lighting and commercial lighting; for the water department they were apportioned between general service and fire service and further apportioned among capacity, output and consumer expenses. The utility has made no provision for depreciation and there has been no charge for municipal hydrant rental nor for street lighting. *Held:* Both the electric rates and the water rates require revision. Because of the lack of definite information, however, the conclusions drawn as to what rates are reasonable are only tentative and may require modification when the utility is able to present such information to the Commission as the law requires a utility to have available. The utility is ordered (1) to put into effect a schedule of water and electric rates fixed by he Commission and (2) to install and keep the accounts and records prescribed for it under date of April 20, 1914, subject to such modifications as the Commission may find necessary. The schedule of rates includes, among other things, provision for charges to be paid by the city of Elroy for fire protection and street lighting. *Kittleson et al. v. Elroy Mun. W. & Lt. Plant*, 485, 496.

26. The Richland Center El. Lt. & W. Plant desires that the Commission establish rates for water consumers located outside the city limits. Consumers of a municipally owned utility who are located outside the limits of the municipality stand in much the same relation to the utility as they would if it were a private enterprise and so long as the rate charged them is fair they cannot complain of discrimination against them merely because that rate is slightly higher than the rate charged residents of the municipality. The utility is authorized to put into effect a specified schedule of charges for water service to consumers outside of the city limits. *In re Appl. Richland Center El. Lt. & W. Plant*, 590, 592, 593.

27. Examination of the financial condition of the Water Department would indicate that the department has sufficient funds to make present needed improvements and extensions with the surplus at hand, so that rates as fixed by the Commission, need provide only an amount above the ordinary interest charges to be set aside as a fund to amortize outstanding bonds. It does not appear equitable to make present consumers contribute through the rates such large amounts towards future additions and towards retirement of present obligations as was suggested at the hearing in this case. Again, the probability of a cycle of hard times occurring later, as was also suggested during the hearings in this matter, should not be made the justification for saddling present consumers with rates through which a surplus fund may be built up to carry the plant over the period of decreased revenue. *Dennett et al. v. City of Sheboygan*, 634, 642.

28. The petitioners requested the Commission to make a thorough investigation of the Sheboygan city water system, its administration, its physical property with relation to its present and future needs, its financial position and the rates now charged for various kinds of service, and upon such investigation to give to the proper administrative authorities such advice or direction as is found to be advisable. *Held:* An analysis of the operating data indicates that the city is not paying as much as it should for fire protection, while other consumers are paying an excess sufficient to meet the deficiency from the fire service and leave a large surplus besides. The present annual charge for fire service protection should be increased. The total charge for public service, which includes fire service and public use of water should be paid in a lump sum per annum and should amount to the cost as determined. Rigid rules and inspections should be inaugurated to eliminate the wasteful use of water through leaky fixtures, improper use of hose for sprinkling, etc. All consumers owning their meters should be paid a reasonable rental for the same. All free service is to be discontinued. Special rates to hotels, halls and theaters are to eliminated, and the schedules proposed substituted. Bills not paid within fifteen days of the date they are due are to be assessed a 5 per cent penalty. The respondent is ordered to discontinue its present rates and substitute therefor one of the two schedules proposed by the Commission. *Dennett et al. v. City of Sheboygan*, 634, 654.

29. The petitioners allege that the rates of the municipal water works in Watertown, Wis., are discriminatory and preferential and improperly adjusted, and that the city has failed to put into effect a schedule suggested by the Commission. Petitioners ask that a schedule of rates for water service be established. It appears that the recommendations of the Commission relating to the elimination of special rates and of joint billing of separate meters have been carried out. But objection is offered to the adoption of a policy requiring the city to pay for fire protection. It is contended the only proper charge for fire protection would be a charge for the water actually used, and attention is called to the fact that a considerable part of the property in the city is beyond the limits to which fire protection is furnished. It seems that special rates are now applied to certain schools and city buildings. No such rates are found in the rate schedule filed with the Commission. *Held:* An analysis of the rate situation shows that the present distribution of expenses as between fire and general service is not a correct one. A further defect is found in the fact that the existing rates for general service are regressive. With respect to the charge for fire service, the Commission has repeatedly pointed out that this charge is determined principally by the amount of the investment apportionable to that branch of the service. Respondent's contention that a considerable part of the property in the city is beyond the fire protection limits, is not without merit. When conditions are normal, it is undoubtedly correct for cities to bear the cost of fire protection. However, in the present case

it has seemed that the manner in which the fire protection cost should be borne should not be prescribed by the order. The respondent is ordered to discontinue its present rates for metered water and substitute therefor one of the three schedules proposed, according to the amount it desires to assume toward bearing the burden of fire protection. *Hughes et al. v. Watertown Water Works*, 669, 689.

30. Respondent petitioned the Commission to suspend its order in the case of *Alter et al. v. City of Manitowoc*, 1912, 10 W. R. C. R. 387. In that case action relating to the readjustment of rates was postponed until such time as the normal operating conditions for the municipally owned water plant could be determined. *Held:* Whether service pipes from the main to the curb line should be furnished by the utility or by the consumer was discussed in the order in question. The conclusion was reached that in the end it would make no substantial difference in the rates to be charged. No reason is seen under the circumstances of this case for changing the order in this respect except to provide that the charge for services to the curb shall be uniform. It is accordingly ordered that the charge for installing service pipes from main to curb shall be uniform for each size of service piping regardless of the distance from main to curb. As regards the question of ownership, or rentals for meters, the objections urged are not valid under the circumstances in the present case. A provision in the Public Utilities Law states that meters must be owned by the utility unless an exemption is granted by the Railroad Commission. The law does not specifically state under what conditions such exemptions shall be granted, but it is to be presumed that the utility should not be required to furnish meters whenever, because of local conditions, this would cause an unreasonable burden to the utility. No such local conditions are found in the present case. It is therefore ordered that the order in question is affirmed, except that the city may exercise its option as to furnishing meters free of charge or of paying a rental therefor, both with regard to meters already installed, and to those to be installed hereafter. Rentals are to be as stated in the body of the decision. *Alter et al. v. City of Manitowoc*, 690, 696.

31. Petitioner prays for authority to change its unit of measurement for water from gallons to cubic feet, and to reduce the minimum annual charge for water from $5 to $3. *Held:* The change in the unit of measurement for water service from gallons to cubic feet is not open to objection. It is merely asked as a matter of convenience and is therefore authorized. The minimum annual charge for water suggested by the city appears rather low, but is accepted in substance, subject to modification as outlined. The petitioner is authorized to reduce its minimum annual charge for water service from $5 to $4 as a gross minimum rate, subject to discount for meter rentals on basis ordered by the Commission, where the consumer owns the meter. *In re City of Manitowoc*, 697, 700.

Special rates.

32. The special rates which were applied to certain schools and city buildings without having been filed with the Commission are unjust, unreasonable, and result in injury. Under the provisions of the law no utility is permitted to make or give any undue preference or advantage to any particular consumer, or subject any consumer to any undue disadvantage in any respect by means of a less rate than that named in the published schedule. *Hughes et al. v. Watertown Water Works*, 669, 681.

REASONABLE RETURN.

See RETURN.

REASONABLENESS OF RATES.

See RATES.

REBATES OR CONCESSIONS.

See also RATES–WATER.

Allowance to subscriber of telephone utility on account of ownership of stock.

1. It is unlawful to charge a lower rate to stockholders than is charged to nonstockholders. *In re Appl. Marquette & Adams County Tel. Co.* 750, 751.

Allowance to subscriber of telephone utility on account of ownership of instrument or facility—Rate concession prohibited.

2. It appears that the proposed schedule provides a lower rate for rural subscribers owning their own telephone than for those who do not. Under the Public Utilities Law (1797*m*–90) all subscribers having the same class of service must be given the same rate. A reasonable rental, however, may be paid those subscribers owning their own equipment. The company is ordered to keep all equipment in repair and pay a rental of 15 cts. per month to all subscribers owning their telephones. *In re Appl. Mosinee Tel. Co.* 709, 710.

RE-CLASSIFICATION.

See CLASSIFICATION.

RECONSIGNMENT CHARGE.

On carload of barley from Milwaukee to Cudahy, *see* RATES–RAILWAY, 13; REPARATION, 29.

RECOVERY.

See REPARATION.

REDUCTION OF RATES.

Reduction of rate not to be construed as an admission of prior unreasonableness, *see* REPARATION, 1.

Reduction on account of furnishing of facilities by consumer, prohibited, see RATES–TELEPHONE, 11; RATES–WATER, 8–9.

Reduction on account of ownership of stock by subscriber, prohibited, *see* RATES–TELEPHONE, 4, 12.

REFUNDS.

Refund from charges collected, *see* REPARATION.

REGULATIONS.

See RULES AND REGULATIONS.

REGULATION OF RATES.

See RATES.

RENTAL FOR EQUIPMENT.

See EQUIPMENT RENTAL.

REPARATION.

GROUND FOR RECOVERY.

Reduction of rate not to be construed as an admission of prior unreasonableness.

1. It is only when the Commission finds that the rate is unusual, exorbitant, illegal or erroneous that reparation may be awarded. The mere fact that a rate has been reduced by the Commission is not sufficient ground in itself for authorizing refunds. (*Menasha Wooden Ware Co. v. W. C. R. Co.* 1908, 2 W. R. C. R. 589; *Beaver Dam Lbr. Co. v. C. St. P. M. & O. R. Co.* 1908, 2 W. R. C. R. 700; *Merrill Wooden Ware Co. v. C. M. & St. P. R. Co.* 1908, 3 W. R. C. R. 54; *Connor Land & Lbr. Co. v. C. & N. W. R. Co.* 1911, 7 W. R. C. R. 774). *Peshtigo Lbr. Co. v. C. & N. W. R. Co.* 624, 626, 627.

IN GENERAL.

Charge in excess of lawful rate—Right to refund excess, without authority from the Commission.

2. On one of the shipments involved in the instant case, the charges should have been assessed at the rate fixed in the order. The rate applied to such shipment was therefore illegal and reparation could have been made by the respondents without authority from the Commission. *Waukesha Lime & Stone Co. v. C. & N. W. R. Co. et al.* 579, 580.

REFUNDS.

Refund from charge erroneously made upon return shipment of car stakes.

3. The petitioner asks for refund of certain charges exacted from it for the transportation of two carloads of car stakes from Rhinelander to Spur 236, on the ground that the stakes were removed from cars containing logs and were being returned to the original point of shipment of the logs and therefore should have been returned free of charge. It is the custom of railway companies to include the cost of transporting car stakes used in shipping logs in the rate assessed upon the shipment of logs and to return the stakes to the point of origin of the shipment without additional charge. The respondent is willing to make the refund asked. *Held:* The charges complained of were unusual and unreasonable. Refund of the full amount paid is ordered. *Brown Bros. Lbr. Co. v. M. St. P. & S. S. M. R. Co.* 204, 205.

Refund from charge in excess of transit rate subsequently made effective.

4. Complaint was made of excessive charges on a carload of buckwheat shipped over respondent's line from Trempealeau to Janesville, Wis. It appeared that at the time the shipment in question moved the rate on buckwheat, with milling in transit privilege at Janesville, from Trempealeau to Chicago and points intermediate between Janesville and Chicago on respondent's line, including Sharon, Wis., was 12½ cts. per cwt.; that the rate from Trempealeau to Milwaukee was 11 cts. per cwt.; that the shipment in question prior to the movement of the product out of Janesville was entitled to either rate, according to the destination of the products; that part of the buckwheat was reshipped to Sharon, Wis.; that the rest of the buckwheat was held at Janesville and that consequently the entire transit credit was not used; that the rate from Trempealeau to Janesville, in effect at the time and charged the shipment involved, was 12½ cts. per cwt., and that some time subsequent to the shipment that rate was changed to 11 cts., the present rate.

Refund on the basis of a 11 ct. rate is asked on that part of the buckwheat held at Janesville. *Held:* Where a shipment of grain is entitled to transit privileges and where the shipment is separated at the transit point into two or more shipments, each destined to points taking different rates from point of origin to point of final destination, the application of different rates to the shipment involved is not authorized in the present tariffs. Petition dismissed. *Blodgett Milling Co. v. C. & N. W. R. Co.* 771, 774.

Refund from distance tariff rate ordered on basis of switching rate established by order of the Commission.

5. This proceeding is in effect a continuation of a previous proceeding of the same title in which a decision was rendered through error on July 11, 1913, 12 W. R. C. R. 248. The petitioner alleges that the distance tariff rate exacted on shipments of brick within the yard limits of Mayville, from the petitioner's brickyard to the plant of the Northwestern Iron Co., is excessive and unreasonable as compared with flat rates charged other industries for the movement of commodities within the yard limits. Certain of the flat rates mentioned are a part of concentration rates on raw materials. *Held:* The petitioner's shipments were not entitled to concentration rates inasmuch as the movements involved were purely terminal movements. The rate complained of, however, is unreasonably high. The reasonable rate would have been 1 ct. per cwt. It is ordered that the respondent (1) establish a rate of 1 ct. per cwt., with a minimum of $6.00 per car, for the switching of cars between points within the yard limits of Mayville; and (2) make refund to the petitioner upon the basis of this rate. *Ruedebusch v. C. M. & St. P. R. Co.* 92, 96.

Refund from excess charge based on a distance tariff rate in the absence of a switching rate.

See post, 13.

Refund from excess charge based on distance tariff rate instead of general switching charge subsequently made effective.

6. The petitioner alleges that the charges exacted from it by the respondent on the basis of the regular lumber distance tariff for the movement of ten carloads of lumber within the village of Hawkins are excessive to the extent that they exceed charges based on the switching rate put into effect for such services after the shipments in question moved, and asks for refund. The respondent is willing to make the reparation claimed. *Held:* The distance tariff rate was an exorbitant charge. Refund is ordered on the basis of the switching charge now in effect, which would have been the reasonable charge for the services rendered. *Rusk Box & Furniture Co. v. M. St. P. & S. S. M. R. Co.* 136, 137.

Refund from excess charge based on rates higher than the rates exacted from more distant points.

7. The petitioner alleges that the rate of 32.5 cts. per cwt. exacted by the respondents for the transportation of seed peas in carloads from River Falls to Columbus is exorbitant when compared with rates from other points to Columbus and asks for refund on a certain shipment on the basis of a rate of 20 cts., which is the regular 5th class St. Paul to Chicago rate. *Held:* The rate complained of is excessive and the petitioner is entitled to refund. The respondents are ordered: (1) to substitute for this rate a rate of 20 cts. per cwt. on dried and seed peas in carloads at minimum weight of 36,000 lb. per car; and (2) to make refund to the petitioner on this basis. *Leonard Seed Co. v. C. St. P. M. & O. R. Co. et al.* 97, 101.

Refund from excess charge based on rates higher than the rates prevailing under substantially similar conditions, and also higher than the cost of transportation warrants.

8. Complaint was made of excess charge on three carloads of fuel wood shipped from Dean's Spur, Wis., to Arpin, Wis. It appears that the charges were assessed at the rate of 2¾ cts. per cwt., that a rate of 2 cts. per cwt. was in effect at that time on the Chicago & North Western Railway Company from Arpin and other stations in the vicinity, and that subsequent to the shipments in question the respondent established a rate of 2 cts. per cwt. on fuel wood from Grand Rapids, Wis., to Arpin. Petitioner asks refund on the basis of the latter rate. *Held:* A rate of 2 cts. per cwt. on fuel wood moving from Arpin to Grand Rapids is ample compensation for the services rendered. Refund ordered on that basis. *Johnson & Hill Co. v. M. St. P. & S. S. M. R. Co.* 752, 753.

9. Complaint was made of excessive charges on a shipment of wooden cheese boxes from Butternut, Wis., to Glover, Wis., and refund asked. It appeared that subsequently the respondent, the M. St. P. & S. S. M. Ry. Co., voluntarily established a considerably lower rate than that charged petitioner, and that at the time of the shipment it had in effect a substantially lower rate applicable to a substantially similar distance and traffic situation as those in question. *Held:* The rate of 24½ cts. per cwt. exacted of the petitioner for shipment of cheese boxes from Butternut to Glover was exorbitant. A reasonable charge would have been the rate subsequently established, or 18½ cts. per cwt. Refund ordered on that basis. *Creamery Package Mfg. Co. v. M. St. P. & S. S. M. R. Co.* 761, 762

Refund from excess charge based on rates higher than the rates prevailing under substantially similar conditions and also on a reasonable rate subsequently made effective.

10. The petitioner complains of the rate of 9 cts. per cwt., exacted by the respondent for the transportation of five carloads of slab wood from New London to La Crosse, and asks for refund on the basis of a rate of 4½ cts. per cwt. applying on fuel wood over other lines for a like distance and put into effect by the respondent since the shipments in question moved. The respondent is willing to make refund. *Held:* The rate complained of was unusual and excessive. Refund is ordered on the basis of the rate now in effect, which would have been the reasonable charge for the services rendered. *Browndeer Lbr. & Fuel Co. v. G. B. & W. R. Co.* 138, 139.

Refund from excess charges based on a rate previously held to be unreasonable by the Commission.

11. The petitioner asks for refund of certain switching charges paid on 200 cars of logs shipped to Rhinelander for delivery at the Stevens mill, on the ground that the practice exacting such charges was declared to be unreasonable and unjust in *Stevens Lbr. Co. v. C. & N. W. R. Co. et al.* 1913, 11 W. R. C. R. 476. *Held:* The charges exacted were unusual and exorbitant. No charge should have been made for the switching service rendered. Refund of the amount paid is ordered. *Mason-Donaldson Lbr. Co. v. M. St. P. & S. S. M. R. Co.* 82, 83.

Refund from excess charges based on rates subsequently reduced by order of the Commission.

12. Complaint was made of excessive charges on shipments of saw logs from various Wisconsin points to Peshtigo, Wis. It appears that during the period in question the rates in force were slightly higher

than those subsequently ordered by the Commission. (*Nor. Hemlock & Hardwood Ass'n. v. C. & N. W. R. Co.* 1913, 12 W. R. C. R. 241.) In that order the old rates were readjusted and slightly lowered, and the petition asks for a refund on the basis of the rates thus established. The matter of the reasonableness of the rates in question was considered when they were readjusted and the Commission found that they were a little higher than the circumstances warranted, and so arranged as to apply the same rate for a long series of distances and then jump abruptly to a considerably higher rate. The rates ordered were intended to correct these two conditions, neither one of which was specifically declared to be unreasonable. *Held:* There is not sufficient ground to authorize a refund in the present case. It is only when the Commission finds the rate is unusual, exorbitant, illegal or erroneous that reparation may be awarded. The mere fact that a rate has been reduced by the Commission is not sufficient ground in itself for authorizing refunds. (*Menasha Wooden Ware Co. v. W. C. R. Co.* 1908, 2 W. R. C. R. 589; *Beaver Dam Lbr. Co. v. C. St. P. M. & O. R. Co.* 1908, 2 W. R. C. R. 700; *Merrill Wooden Ware Co. v. C. M. & St. P. R.* Co. 1908, 3 W. R. C. R. 54; *Connor Land & Lbr. Co. v. C. & N W. R. Co.* 1911, 7 W. R. C. R. 774.) The petition is dismissed. *Peshtigo Lbr. Co. v. C. & N. W. R. Co.* 624, 627.

Refund from excess charge based on the sum of the locals instead of through rates.

See post, 23.

Refund from excess charge based on a trackage rate.

13. The petitioner alleges that the distance tariff rate exacted by the respondent, in the absence of a switching rate governing the movement, for the transportation of seventeen cars of ties and rails from Lange Spur to Hotchkiss Spur, a distance of 2.1 miles, between Draper and Kaiser, Wis., was exorbitant and asks for refund on the basis of a trackage rate of $1 per car. The respondent is willing to make refund. *Held:* The charge complained of was unusual and exorbitant. Refund is ordered on the basis of a rate of $1 per car which would have been the reasonable rate for the service performed. *New Dells Lbr. Co. v. C. St. P. M. & O. R. Co.* 186, 187.

Refund from excess charge caused by failure to make allowance for car stakes.

14. The petitioner alleges that it was overcharged for the transportation of certain carload shipments of logs to Ashland from various points in Wisconsin through the failure of the respondent's tariff in force when the shipments moved to provide for an allowance for car stakes. The omission of a provision making such an allowance was evidently due to an oversight and the mistake has been rectified in a subsequent tariff. The respondent is willing to make refund. *Held:* The charge complained of was unusual and exorbitant. Refund of the amount claimed is ordered. *John Schroeder Lbr. Co. v. M. St. P. & S. S. M. R. Co.* 542, 543

Refund from excess charge caused by failure to protect an intermediate point.

15. The petitioner alleges that the rate of 3⅛ cts. per cwt. exacted by the respondent for the transportation of four carloads of logs from Bayfield to Washburn was exorbitant and asks for refund on the basis of a rate of 1 ct. per cwt., minimum charge $5 per car, which was in effect at the time the shipments in question moved for shipments from Bayfield to Ashland originating on the Bayfield Transfer Ry. The

respondent is willing to make refund. *Held:* The charge complained of was unusual and exorbitant. Refund is ordered on the basis of a rate of 1 ct. per cwt., minimum charge $5 per car, which would have been the reasonable rate for the service performed. *Sprague Lbr. Co. v. C. St. P. M. & O. R. Co.* 289, 290.

Refund from excess charges caused by failure to protect an intermediate point in a rate which was subsequently extended to cover the more distant points.

16. The petitioner alleges that the charges collected by the respondents for the transportation of thirteen shipments of cedar posts from Taylor Rapids to Peshtigo were erroneous and illegal and asks for refund. The charges in question were based on a rate of 8½ cts. per 100 lb. then in effect from Taylor Rapids to Bagley Jct., plus a charge of $3 per car from Bagley Jct. to Peshtigo. At the time the shipment moved a rate of 6½ cts. per 100 lb. was in effect from Taylor Rapids to Marinette and Menominee, Mich., points beyond Bagley Jct. on the C. M. & St. P. Ry., and this rate has since been put into effect over the same line from Taylor Rapids to Bagley Jct. The C. M. & St. P. Ry. Co. is willing to grant the relief asked. *Held:* The charges complained of were unusual and exorbitant. Refund is ordered upon the basis of a rate of 6½ cts. per 100 lb. from Taylor Rapids to Bagley Jct., plus $3 per car from the latter point to Peshtigo, which would have been the reasonable charges for the service performed. *Peshtigo Lbr. Co. v. C. M. & St. P. R. Co. et al.* 188, 189

Refund from excess charge caused by failure to protect an intermediate point in a rate which was subsequently extended to cover such point.

17. Complaint was made of excessive charges on a car of hay shipped from Osceola to Rhinelander, Wis., and refund asked. It appeared that the rate would have been 10 cts. per cwt. had it not been for the omission of the intermediate clause from the tariff in question through an oversight, which was corrected when attention was called to it. *Held:* The charge of 12½ cts. per cwt. exacted of petitioner on the shipment of hay from Osceola to Rhinelander was excessive. A reasonable rate would have been 10 cts. per cwt. Refund ordered on that basis. *Osceola Mill & Elevator Co. v. M. St. P. & S. S. M. R. Co.* 759, 760.

Refund from excess charge exacted in error.

See post, 25, 29.

18. The petitioner alleges that the charge of 7 cts. per cwt. assessed by the respondent for the transportation of two cars of bottles from Milwaukee to Waukesha was unusual and exorbitant to the extent that it exceeds the rate of 5 cts. per cwt. previously in effect and also in effect over other lines between the said points at the time the shipment moved. The respondent alleges that the 7 ct. rate was published in error and asks that the reparation requested be awarded. *Held:* The rate exacted of the petitioner was unusual and exorbitant. The reasonable rate for the service rendered is 5 cts. per cwt. Refund is ordered on this basis. *Franzen & Co. v. M. St. P. & S. S. M. R. Co.* 77, 78.

19. The petitioner alleges an overcharge on a quantity of fuel wood and fence posts shipped in the same car from Arpin to Neenah, Wis., over respondent's line. It appears the shipment was billed as fuel wood at the rate properly applicable to that commodity. At destination the rate applicable to straight carload shipments of lumber, and

articles taking lumber rates, including fence posts, was assessed. This rate does not, however, include fuel wood. *Held:* The fuel wood should have been charged at 3½ cts. and the fence posts at 18½ cts. per cwt. Refund ordered on that basis. *Miller v. C. & N. W. R. Co.* 707, 708.

Refund from excess charge ordered on basis of difference between the rate charged and the rate found reasonable.

20. The fact that there is very little coal moving into Milwaukee is not sufficient reason why an occasional shipment of coal should not be given a reasonable rate on the basis of the cost to the carrier of performing the service. The rates in question from Oshkosh and Fond du Lac to Milwaukee are unreasonable to the extent that they exceed the going rate. Refund is ordered on that basis, and the respondent is further ordered to change its tariff on coal and read "between Milwaukee and" the cities of Fond du Lac and Oshkosh, instead of "from Milwaukee to" Fond du Lac and Oshkosh. *Pennsylvania Coal & Supply Co. v. C. M. & St. P. R. Co.*, 746, 748, 749.

Refund from excess charge ordered on basis of distance rates previously established by order of the Commission.

21. The petitioner alleges that the charges exacted by the respondents for the transportation of two carload shipments of limestone from Waukesha to Black River Falls were exorbitant insofar as they exceeded the rates established in *Waukesha Lime & Stone Co. v. M. St. P. & S. S. M. R. Co. et al.* 1914, 13 W. R. C. R. 471, and applied to the respondents by a supplemental order issued Feb. 7, 1914. *Held:* 1. The rate of 7½ cts. per cwt., applied to the shipment of March 13, 1914, was illegal and reparation could have been made without authority from the Commission. 2. The rate of 10 cts. per cwt. applied to the shipment of Feb. 7, 1914, was the rate then legally in effect, but was unusual and exorbitant. Refund is ordered on the basis of the rate of 4.3 cts. per cwt., established for the distance involved by the orders cited. *Waukesha Lime & Stone Co. v. C. & N. W. R. Co. et al.* 579, 580

22. Complaint was made by the petitioner that the charges on a carload of ground limestone, shipped from Waukesha to Durand, Wis., were unreasonable. *Held:* The rates charged were unreasonable and should not have exceeded charges based on rates established by the Commission in *Waukesha Lime & Stone Co., Frank B. Fargo, Agent, v. M. St. P. & S. S. M. R. Co. et al.* 1914, 13 W. R. C. R. 471, supplemented February 7, 1914, for the purpose of making the C. & N. W. and the C. M. & St. P. railway companies parties to the proceeding. The rate charged on limestone for agricultural purposes from Waukesha to Durand, Wis., a distance of 297 miles via respondent lines, should have been 5.10 cts. per cwt. Refund ordered on that basis. *Waukesha Lime & Stone Co. v. M. St. P. & S. S. M. R. Co. et al.* 718, 720.

Refund from excess charge ordered on basis of a joint rate established by order of the Commission.

23. Complaint was made of excess charges on a carload of lumber shipped from Ashland to Berlin, Wis., and refund asked. The shipment was made on the assumption that the rate over respondents' lines was the same as that over the lines of the M. St. P. & S. S. M. Ry. Co. and the C. M. & St. P. Ry. Co., which is a rate of 12 cts. between the points in question. The establishment of joint rates on lumber was ordered in *Wis. Retail Lbr. Dealers Ass'n. v. C. & N. W. R. Co. et al.* 1909, 3 W. R. C. R. 471 and 589. The petitioner's charge in the present case was based on the sum of the local rates. The fact that a joint rate was not in effect was due to the belief that no shipments of lumber

were likely to move between the points in question. *Held:* The rate exacted of petitioner was unusual. A reasonable rate would have been 12 cts. per cwt. Refund ordered on that basis. *John Schroeder Lbr. Co. v. C. & N. W. R. Co. et al.* 823, 824

Refund from an excess charge ordered on basis of joint rate subsequently made effective.

See ante, 9.

Refund from excess charge ordered on basis of legal rate in effect at time shipment moved.

24. Complaint was made of excess charges on twenty carloads of wood bolts, shipped from Manson and Bradley to Merrill, Wis. It appears that the shipments were billed locally over respondent's line from Manson and Bradley to Heafford Junction, a distance of four miles, at the rate of 3 cts. per cwt., and locally over the line of the C. M. & St. P. Ry. Co. from Heafford Junction to Merrill, a distance of twenty-eight miles, at a rate of 1½ cts. per cwt. Refund is asked on the basis of a 1½ ct. rate. Respondent's tariff applicable to the commodity in question was 2 cts. per cwt. for distances of five miles or less between all points on its line in Wisconsin. The foregoing rate was in effect at the time the shipment moved, and the complaint is not broad enough to warrant an investigation as to its reasonableness. *Held:* The charge of 3 cts. per cwt. exacted on the shipments in question was excessive. The reasonable charge exacted should have been 2 cts. per cwt. Refund ordered on that basis. *Merrill Woodenware Co. v. M. St. P. & S. S. M. R. Co.* 805, 807.

Refund from excess charge ordered on basis of reasonable rate erroneously omitted from tariff.

25. The petitioner alleges that it was charged a rate of 13.5 cts. per cwt., subject to a minimum weight of 22,800 lb., for the transportation of a carload of excelsior weighing 21,736 lb. from Rice Lake to Ft. Atkinson and asks that the respondents be authorized and directed to make refund on the basis of a rate of 11.5 cts., subject to a minimum weight of 20,000 lb., which is the rate now in effect between the points named. It appears that the 11.5 ct. rate should have applied to Ft. Atkinson at the time the shipment moved, but that it was, through error, omitted from the tariff. The respondents are willing to make refund. *Held:* The charge complained of was unusual. Refund is ordered on the basis of the 11.5 ct. rate which would have been the reasonable charge for the service performed. *Selle & Co. v. C. St. P. M. & O. R. Co. et al.* 225, 226.

Refund from excess charge ordered on basis of reasonable rate established by order of the Commission.

26. The petitioner alleges that the charges exacted by the respondent for the transportation of certain carload shipments of beer from Wausau to Tomahawk and Minocqua are exorbitant to the extent that they exceed the rates established in *Wausau Advancement Ass'n v. C. M. & St. P. R. Co.* 1914, 13 W. R. C. R. 527, and asks for refund. *Held:* The charges complained of were unusual and exorbitant. Refund is ordered on the basis of the rates fixed in the order cited. *Ruder Brwg. Co. v. C. M. & St. P. R. Co.* 508, 509.

Refund from excess charge ordered on basis of reasonable rate previously in effect and subsequently reëstablished.

27. The petitioner alleges that the rate of 6 cts. per cwt. exacted by the respondent for the transportation of nine carloads of logs from

Grandview to Cumberland was excessive and asks for refund on the basis of a rate of $2 per 1,000 feet, minimum charge $10 per car. The rate last named was canceled prior to the time the shipments moved but was restored after the shipments moved. The respondent is willing to make refund. *Held:* The rate complained of was unusual, illegal and exorbitant. Refund is ordered on the basis of a rate of $2.00 per 1,000 feet, minimum charge $10 per car, which would have been the reasonable rate for the service performed. *Cumberland Fruit Pkg. Co. v. C. St. P. M. & O. R. Co.* 287, 288.

28. Complaint was made of excessive charges on six carloads of lumber shipped from Cotton, Wis., to Rhinelander, Wis., for concentration and reshipment. It appears that the rate upon the basis of which the shipments in question were made had been in effect, but remained in effect only through error at the time it was quoted to petitioner, and that an additional sum, on the basis of a higher rate, was collected by the connecting carrier, the respondent M. St. P. & S. S. M. R. Co. Subsequently the original rate quoted to petitioner was reëstablished, and petitioner asks for refund on that basis. *Held:* The rate charged petitioner was excessive. A reasonable charge would have been 4½ cts. per cwt., the rate originally charged petitioner and since then put into effect by respondent M. St. P. & S. S. M. R. Co. Refund on that basis. *Pierce v. M. St. P. & S. S. M. R. Co. et al.* 754, 756.

Refund from excess charge ordered on basis of reasonable rate subsequently made effective.

See also ante, 8, 16, 21, 26.

29. The petitioner alleges that the rate of 8 cts. per cwt. which the respondent exacted together with a reconsignment charge of $2 for the transportation of a carload of barley from Janesville to Cudahy was unusual and exorbitant and asks for refund on the basis of a rate of 7 cts. per cwt., which is the rate from Janesville to Milwaukee, plus the reconsignment charge of $2 for transportation from Milwaukee to Cudahy. The respondent contends that the 8 ct. charge was correctly made on the basis of the 7 ct. rate from Janesville to Milwaukee plus a rate of 1 ct. from Milwaukee to Cudahy, but that no reconsignment charge should have been asssessed. Since the petition was filed the respondent has put into effect the rate claimed as reasonable by the petitioner. *Held:* The charge exacted was unusual and exorbitant. The reasonable charge for the service is 7 cts. per cwt. plus a reconsignment charge of $2 at Milwaukee. Refund is ordered on this basis. *Owen & Brother Co. v. C. & N. W. R. Co.* 79, 81.

30. The petitioner alleges that it was overcharged for the transportation of a carload of box shooks from Marinette to Stanley. The charge assessed by the respondents was based on a rate of 13 cts. per cwt. from Marinette to Eau Claire and a rate of 5 cts. per cwt. from Eau Claire to Stanley. Since the shipment moved the C. St. P. M. & O. R. Co. has put into effect a rate of 13 cts. per cwt. for shipments from Marinette to Stanley and the petitioner asks refund upon the basis of this rate. *Held:* The charge complained of was unusual and exorbitant. The rate of 13 cts. per cwt. now in effect is the reasonable charge for the service rendered. Refund is ordered upon this basis. *Big Four Canning Co. v. C. St. P. M. & O. R. Co.* 84, 85.

31. The petitioner alleges that the rate of 2 cts. per cwt., exacted by the respondent for the transportation of a car of stone tailings from Highland Jct. to Hewetts, was unusual and exorbitant and prays for refund on the basis of a rate of 1.2 cts. which the respondent has put into effect since the shipment moved. The respondent is willing to make refund. *Held:* The charge exacted was unusual and exorbitant. Refund is ordered on the basis of the rate of 1.2 cts. now in effect which would have been the reasonable charge for the service performed. *Frontz v. Mineral Pt. & N. R. Co.* 217, 218.

32. The petitioner alleges that charges assessed by the respondent at the rate of 10 cts. per cwt. for the transportation of a shipment of excelsior from Rice Lake to Superior were excessive to the extent that they exceed charges based on the rate of 8½ cts. per cwt., put into effect by the respondent since the shipment moved. The respondent is willing to make refund. *Held:* The charges complained of were unusual. The refund claimed is ordered. *Selle & Co. v. M. St. P. & S. S. M. R. Co.* 544, 545.

33. The petitioner alleges that the charge of 12 cts. per cwt. exacted by the respondent for the transportation of a shipment of fuel oil from Mayville to West Allis was exorbitant to the extent that it exceeded the rate of 10 cts. per cwt. put into effect by the respondent since the shipment moved. It appears that the 10 ct. rate was not put into effect earlier for the reason that few if any shipments of fuel oil had been made between the points in question. The rate of 10 cts. is reasonable. *Held:* The charge complained of was unusual. The refund claimed is ordered. *Northwestern Iron Co. v. C. M. & St. P. R. Co.* 577, 578.

Refund from excess demurrage charges based on unreasonable delay in providing certain track facilities.

34. The petitioner alleges that the respondent exacted from it unjust and unwarranted demurrage charges on account of delays in unloading carload shipments of stone at Racine which were occasioned solely by the failure of the respondent to properly fulfill its agreement to provide certain track facilities for the use of the petitioner. There appears to be no provision in the demurrage rules of the respondent which would permit it to make any free time allowance for a delay of the kind involved in the instant case. *Held:* The charge complained of was unusual and exorbitant. Refund of the amount claimed is ordered. It would seem advisable for the railway companies to amend the demurrage rules to make allowances for delays in unloading cars which are occasioned, as in the instant case, by the failure of the railway company to provide promised track facilities within the time agreed upon with shippers. *Greiling Bros. Co. v. C. M. & St. P. R. Co.* 449, 453.

Refunds ordered on specific shipments.

Refund on shipment of barley, *see ante*, 29.
of beer, *see ante*, 26.
of bolts, *see ante*, 24.
of bottles, *see ante*, 18.
of box shooks, *see ante*, 30.
of brick, *see ante*, 5.
of car stakes, *see ante*, 3, 14.
of cedar posts, *see ante*, 16.
of cheese boxes, *see ante*, 9.
of coal, *see ante*, 20.
of excelsior, *see ante*, 25, 32.
of fuel oil, *see ante*, 33.
of fuel wood, *see ante*, 8.
of fuel wood and fence posts, *see ante*, 19.
of ground limestone, *see ante*, 21, 22.
of hay, *see ante*, 17.
of logs, *see ante*, 11, 14, 15, 27.
of lumber, *see ante*, 6, 23, 28.
of peas, *see ante*, 7.
of posts, *see ante*, 16, 19.
of rails and ties, *see ante*, 13.
of seed peas, *see ante*, 7.
of slab wood, *see ante*, 10.
of stone, *see ante*, 34.
of stone tailings, *see ante*, 31.
of ties and rails, *see ante*, 13.

Refunds, petitions for, dismissed.

Petition for refund on shipment of buckwheat dismissed, *see ante*, 4. of logs dismissed, *see ante*, 12.

RESERVES.

Depreciation reserve charge, *see* DEPRECIATION, 2–4.

RETURN.

Relation of rate of return to public utilities and to private enterprises.

1. In determining the force of the arguments as to the low rates of interest obtained by investors in private business enterprises, the matter must be viewed from the other side. The question would then be,—should there still be a close relation between the rate of return to the water company and that to other private investors if the latter were obtaining several times the rate now received, say 12 to 15 per cent or more. It is very doubtful that any such rule would be admitted to work both ways. *In re Invest. Ashland Water Co.* 721, 726.

RIVER IMPROVEMENTS.

Jurisdiction of Commission over river improvements, *see* RAILROAD COMMISSION, 12.

ROOM BASIS.

Flat rates for water service based on number of rooms, *see* RATES–WATER, 6.

ROUTING.

Street railway cars, change in routing of, to improve service, *see* STREET RAILWAYS, 10.

RULES AND REGULATIONS.

Requirements as to utilities furnishing meters to residence or other small consumers.

1. It is a general rule that public utilities in Wisconsin shall own and maintain the meters through which their services are measured to consumers, yet it is sometimes expedient, if not necessary, to make exceptions to this rule. In the instant case, in view of the present great magnitude of the investment in the plant of the utility, it is deemed inexpedient to require the utility to alter its present rules concerning the furnishing of meters to residence or other small consumers. *In re Invest. Ashland Water Co.* 1, 42.

Requirement as to furnishing party line telephone service.

Rule providing that utility will not hold itself liable to furnish party line service unless the line can be kept full to capacity, held to be unreasonable, *see* TELEPHONE UTILITIES, 45.

RUSH PERIODS.

Street railways, requirements as to service and facilities, adequacy of service, through service during rush-periods, *see* STREET RAILWAYS, 10.

SAFETY APPLIANCES.

Automatic crossing alarm for protection of railroad crossing, *see* RAILROADS, 12, 15, 27.

SALARIES OF EXECUTIVE OFFICERS.

As element considered in making rates for electric utilities, *see* RATES–ELECTRIC, 10.

SCHEDULES.

Street car schedules, *see* STREET RAILWAYS, 7.

SCHEDULES FOR UTILITIES.

Water utility given choice of schedules contained in order of Commission.

1. Two schedules have been evolved: Schedule A, based upon the assumption that the city of Sheboygan pays an increased fire service charge; and Schedule B, based upon the assumption that no change is made in the present charge of this service to the city. Two forms of each of the flat rate portion of the schedules are submitted. *Dennett et al. v. City of Sheboygan*, 634, 650.

2. Three schedules of rates are designed to fit the different conditions which may arise, depending upon the attitude of the city toward assuming the burden of fire protection. The utility may choose any one of these schedules. *Hughes et al. v. Watertown Water Works*, 669, 687.

SCHEDULES OR TARIFFS.

See RATES; REPARATION.

CHANGE IN TARIFF.

Effect of change ordered by Commission.

1. Although the rates complained of are prima facie not unreasonable when the character of the service and the rates charged over other lines for a like service are considered, certain modifications in the tariff should be made to prevent the doing of unjustice to the petitioner. *Wachsmuth Lbr. Co. v. Bayfield Transfer Ry. Co.* 253, 260.

SCOPE OF LAW.

See PUBLIC UTILITIES LAW; RAILROAD LAW; WATER POWER LAW.

SECURITIES.

Issue by Commission of license to deal in securities, *see* LICENSE, 1.

SEED PEAS.

Refund on shipment, River Falls to Columbus, *see* RATES–RAILWAY, 40; REPARATION, 7.

SEPARATION OF GRADES.

Separation of grades for protection of railway crossings, *see* RAILROADS, 17, 20, 22, 35.

SERVICE AND FACILITIES.

Electric utilities.

Requirements as to service and facilities, adequacy of service, *see* ELECTRIC UTILITIES, 4–8.

Railroads.

Requirements as to service and facilities, adequacy of service, station facilities, *see* STATION FACILITIES, 1–6.
train service, *see* TRAIN SERVICE, 1–11.

SERVICE CHARGE.

See MINIMUM CHARGES.

SHIPPING FACILITIES.

See STATION FACILITIES; SWITCH CONNECTIONS.

SHOOKS.

See BOX SHOOKS.

SIDETRACK FACILITIES.

See SWITCH CONNECTIONS.

SLAB WOOD.

SMALL POWER OR INCIDENTAL APPLIANCES.

See RATES–ELECTRIC.

SPECIAL OR PREFERENTIAL RATES.

SPEED OF TRAINS.

SPUR TRACKS.

See SWITCH CONNECTIONS.

STANDARDS OF SERVICE.

Electric utilities, *see* ELECTRIC UTILITIES, 4–8.
Gas utilities, *see* GAS UTILITIES, 1.
Water utilities, *see* WATER UTILITIES, 3–6, 12–14, 16.

STATION FACILITIES.

See also SWITCH CONNECTIONS.

Adequacy of station facilities.

1. The petitioner alleges (1) that the station facilities furnished by the respondent at Menomonie Jct., Dunn county, are inadequate; (2) that the practice of requiring passengers to board or alight from a westbound train on the north side instead of on the station side is dangerous and inconvenient; and (3) that the baggage room at the Menomonie city depot is inadequate, and asks that the respondent be required to provide adequate station facilities at Menomonie and Menomonie Jct. and to allow passengers to board and alight from westbound trains on the station side at Menomonie Jct. Menomonie Jct. is almost exclusively a transfer point. Baggage is usually transferred there on trucks and is sometimes damaged by rain and snow. At the Menomonie city station traffic conditions are such at certain seasons of the year, when students are returning to or leaving the Stout Manual Training Institute, that baggage is exposed to damage from the weather by being allowed to stand on trucks for considerable periods of time. *Held:* 1. The station facilities at Menomonie Jct. are inadequate. 2. The change proposed by the petitioner in the present practice of loading and unloading westbound trains at Menomonie Jct. is not practicable from the standpoint of public safety. A suitable shelter should, however, be provided for the use of passengers obliged to wait on the north platform. The respondent is ordered to enlarge its passenger station at Menomonie Jct. so as to provide adequate accommodation for passengers and baggage and to erect a suitable umbrella shed as specified. Plans are to be submitted for approval. Sixty days is given within which to comply with the order. No order is issued with reference to the protection of baggage at the city station, it being understood that the respondent will provide tarpaulins and keep all baggage properly covered during the days of abnormal traffic when the baggage room may be insufficient. *Commercial Club of Menomonie v. C. St. P. M. & O. R. Co.* 123, 127.

2. The petitioner alleges that the respondent's station facilities at Horicon, Dodge county, are unsanitary, inadequate and insufficient and that the present situation is dangerous and asks that the respondent be required to increase its station accommodations for passengers and to build an adequate freight depot. The respondent concedes that better accommodations are needed and states that it is willing to make the necessary improvements in the spring of 1914, but has failed to submit plans as promised. *Held:* The freight and passenger facilities complained of are inadequate. The respondent is ordered (1) to erect a modern depot for passengers at a specified location, (2) to provide a freight station south of the present site and the sidetracks with adequate platform and storage room and a convenient highway approach, and (3) to construct and maintain a properly surfaced driveway to its stockyards from the public highway. Plans for the station buildings are to be submitted for approval and the improvements and new buildings ordered are to be completed and opened for the use of the public by July 15, 1914. *Horicon Advancement Ass'n v. C. M. & St. P. R. Co.* 144, 147.

3. The petitioner alleges that the respondent's station facilities at Sun Prairie, Dane county, are inadequate and expresses the opinion that a new and modern station building with proper approaches is required.

Held: The station facilities are inadequate. The respondent is ordered to provide a station which shall be adequate for the accommodation of passengers and freight, and which shall have ample platform accommodations, plans to be submitted for approval. July 1, 1914, is considered a reasonable date at which the work ordered shall be completed. *Village of Sun Prairie v. C. M. & St. P. R. Co.* 332–333.

4. The petitioners allege that the station facilities furnished by the respondent at Reserve, Sawyer county, are inadequate and ask that the respondent be required to maintain and keep open a freight and passenger station and employ a regular agent at Reserve. The respondent is willing to build a separate house for its section foreman and to devote the station building now occupied by him to the exclusive use of passengers and the storage of freight. This is satisfactory to the petitioners and the only question for decision therefore is whether the services of a regular station agent are required. *Held:* In view of the amount of freight and passenger business transacted and the fact that there is but one train a day into Reserve, the employment of a regular station agent is not warranted at the present time. A competent caretaker should, however, be employed to keep the station clean, warm and lighted and to open it at least twenty minutes before the train arrives and until it departs, as required by sec. 1797—9 of the statutes as amended by ch. 616, laws of 1913. The respondent is ordered to provide a station building at Reserve which shall be adequate for its freight and passenger business, and to employ a competent caretaker who shall keep the station properly cleaned, heated and lighted and open for the use of the public at least twenty minutes before the arrival of trains and until their departure. The station is to be open for public use by July 1, 1914. *Whiteis et al. v. M. St. P. & S. S. M. R. Co.* 340, 342.

5. The petitioners allege that the depot maintained by the respondent at Mosinee, Marathon county, is unsanitary and inadequate and ask that the respondent be required to build a new depot. The respondent admits the allegation and states its willingness to make necessary improvements in the existing structure. Witnesses assert that the present location of the depot is such as to imperil passengers in that it is necessary to pass over a dangerous crossing in order to reach it and suggest that the new depot be located on the other side of the tracks. The respondent questions the authority of the Commission to order the relocation of the depot. *Held:* 1. The Commission is empowered in a proper case to fix the point of location of a depot. *City of Rhinelander v. M. St. P. & S. S. M. R. Co.* 1912, 8 W. R. C. R. 719, 725. 2. The requirements of public safety and adequate service make it imperative that the new depot be located east of the tracks. The respondent is ordered to erect a modern station building east of its tracks at Mosinee which shall be adequate for the freight and passenger traffic there, plans to be submitted for approval. Oct. 1, 1914, is considered a reasonable date at which the improvements ordered shall be completed and open for public use. The matter of the construction of a suitable sidewalk between the bridge over the Wisconsin river and the depot is left to the town authorities and the respondent for informal adjustment. *Von Berg et al. v. C. M. & St. P. R. Co.* 553, 555.

6. Complaint was made that the station facilities at Abrams are inadequate for the accommodation of passengers and freight. It appears that the depot is about 30 years old; that crates and boxes are often stored in the passenger room, sometimes forcing passengers to the open platform in inclement weather; and that the freight room is frequently overcrowded and infected with rats. *Held:* The station facilities are inadequate. The building should be altered and repaired, and vigorous measures should be adopted to rid it of rats. The respondent is ordered to enlarge and repair its station building at Abrams in the manner provided in the order, plans to be submitted to the Commission for approval. *Abrams Business Men's Ass'n v. C. M. & St. P. R. Co.* 780, 782.

Adequacy of station facilities—Car facilities.

Discrimination due to distribution of equipment, *see* DISCRIMINATION, 9–10; RAILROADS, 36.

Adequacy of station facilities—Caretaker.

See ante, 4.

Practicability, public convenience and necessity of union stations in particular cases—New Richmond.

7. The petitioner alleges that it is practicable and that public convenience and necessity require that the respondents erect and maintain a union passenger depot at New Richmond and asks that the respondents be ordered to construct, maintain and use such a depot. The respondents contend that the public convenience to be gained by the change would be too slight to warrant the expense involved. The C. St. P. M. & O. Ry. Co. maintains a depot, the adequacy of which is not questioned, very close to the retail business district of the city. The depot of the M. St. P. & S. S. M. Ry. Co. is located about one-half mile distant and is admitted by the railway company to be in need of improvement. The petitioner alleges that a union depot is necessary for the convenience both of transfer passengers and of residents of the city and contends that it should be erected at the present time in order to avoid the waste consequent upon the construction of a new separate depot by the M. St. P. & S. S. M. Ry. Co. Residents of the city are divided in their opinions as to the desirability of a union depot. In passing upon the question as to whether a union depot is required by public convenience and necessity it is necessary to consider the convenience of the traveling public, including both the residents of the community and those who may use the station as a transfer point, and the expenditure to be imposed upon the railway companies. *Held:* Public convenience and necessity do not require the erection of a union depot at New Richmond at the present time, in view of the fact that such a depot would not be of material advantage to the city as a whole and the further fact that the transfer traffic, independent of the city patronage, is not of sufficient importance to justify the erection of such a depot, especially when such action would place a heavy financial burden upon one of the respondents which is at present rendering adequate station service. The petition is dismissed. If the matter of the adequacy of the M. St. P. & S. S. M. Ry. Co's station is not satisfactorily adjusted it can be brought to the attention of the Commission for immediate relief by an appropriate complaint. *City of New Richmond v. C. St. P. M. & O. R. Co. et al.* 556, 559.

Relocation of stations.

See ante, 5.

STATIONS.

See STATION FACILITIES.

STOCKHOLDERS.

Different rates for stockholders and nonstockholders of telephone companies, unlawful discrimination, *see* DISCRIMINATION, 17–18.

STONE.

Refund on demurrage charges on shipment of stone, Racine, *see* RATES—RAILWAY, 2; REPARATION, 34.

STONE TAILINGS.

Refund on shipment, Highland Jct. to Hewetts, *see* RATES–RAILWAY, 42; REPARATION, 31.

STOPPING OF CARS.

Stopping of interurban cars between stations, *see* INTERURBAN RAILWAYS, 1.

STOPPING OF TRAINS.

Stopping of trains for protection of railway crossings, *see* RAILROADS, 13; at stations, *see* TRAIN SERVICE, 1–3, 5–6, 10–11.

STORAGE FACILITIES.

See STATION FACILITIES; SWITCH CONNECTIONS.

STORAGE RATES.

Extension of free storage time, due to infrequent mail service or prohibitive conditions brought about by the weather, *see* RATES–RAILWAY, 3.

STRAIGHT METER RATES.

Electric utility, discrimination possible under straight meter rates, *see* DISCRIMINATION, 1.

Water utility, straight meter rates as a rule undesirable, *see* RATES–WATER, 17.

STREET LIGHTING RATES.

See RATES–ELECTRIC.

STREET RAILWAY RATES.

See RATES–STREET RAILWAY.

STREET RAILWAYS.

See also INTERURBAN RAILWAYS.

CONSTRUCTION, MAINTENANCE AND EQUIPMENT.

Abandonment of track or portion thereof.

1. No power is vested in the Commission to authorize the abandonment of any line of street railway, that matter being one over which the common council has exclusive jurisdiction. (*Lang v. City of La Crosse et al.* 1909, 3 W. R. C. R. 292, 298.) However, if a line has been abandoned without the consent of the common council, and if the restoration of operation thereon would seriously threaten the efficiency of the service over the entire system, the authority to compel the restoration of such service should not be exercised. (*Brown v. Janesville St. Ry. Co.* 1910, 4 W. R. C. R. 757, 764.) *Jones v. Wis. Ry. Lt. & P. Co.* 518, 522.

2. The Commission is without jurisdiction to grant the prayer of the petition, which is in substance that petitioner be authorized to abandon its existing tracks upon the completion of a new route for which it holds a franchise. (*Lang v. City of La Crosse et al.* 1909, 3 W. R. C. R. 292, 298.) The abandonment of a line of street railway is a matter wholly within the jurisdiction of the common council. *In re Chippewa Val. R. L. & P. Co.* 713, 714.

Extensions or additions to street railways—Commission without authority to compel street railway companies to make extensions or additions to line.

3. The Commission has no authority to order extensions of street railway lines. (*City of Merrill v. Merrill Ry. & Lt. Co.* 1910, 5 W. R. C. R. 418, 425.) *City of Racine v. T. M. E. R. & L. Co.* 148, 149.

OPERATION.

Requirements as to service and facilities—Adequacy of service.

4. The petitioner alleges (1) that the respondent's service in the city of Racine is inadequate; (2) that the extension of certain lines is necessary for proper service to the public; and (3) that the increase of street car traffic in Racine is sufficient to justify the sale of six tickets for 25 cts., good at all times when the cars are in operation. Since the hearing the complaint with regard to adequacy of service has been satisfied. The complaint as to tickets is not considered, inasmuch as no testimony was presented with reference to it. *Held:* The Commission has no authority to order extensions of street railway lines. *City of Merrill v. Merrill Ry. & Lt. Co.* 1910, 5 W. R. C. R. 418, 425. It is recommended, however, that the city of Racine grant without unreasonable encumbrance, and that the respondent accept, franchises along certain designated streets in Racine. The petition is dismissed. *City of Racine v. T. M. E. R. & L. Co.* 148, 151.

5. The petitioner alleges that the street railway service rendered by the respondent at La Crosse is inadequate and discriminatory in that it is arranged for the convenience of one class of patrons without regard to the necessities of laboring men and asks that the respondent be required to operate its cars on La Crosse street as far east as 25th street on a ten-minute schedule from 6 a. m. to 11 p. m. The respondent now operates cars on its Oak Hill-Cemetery line regularly to 18th street and during the period from May to October furnishes additional service to the golf links beyond 25th street on a schedule arranged with reference to the convenience of the patrons of the golf links, the service beginning about 9 a. m. and ending about 7 p. m. The extension of track to the golf links was made about 1901 in accordance with an agreement under which the golf club paid a part of the cost of construction and also bore a part of the operating expenses for the first three years. Traffic data submitted at the hearing and data gathered by the Commission show that the additional service prayed for would cost considerably more than the additional revenue which would be derived from it. No evidence is presented, however, to show that the earnings from the entire line in question would be so reduced by the granting of the additional service that proper service could not be rendered over this line and other lines of the respondent's system, with a reasonable return upon the value of the property used and useful for the public. The respondent operates the line on La Crosse street under a permissive franchise which authorizes it to construct and operate a single track line on La Crosse street from Forest avenue to such point as it may determine. No power is vested in the Commission to authorize the abandonment of any line of street railway, but that matter is one over which the common council of the city has exclusive jurisdiction. *Lang v. City of La Crosse et al.* 1909, 3 W. R. C. R. 292, 298. *Held:* 1. The respondent by constructing and operating its line as far east as 25th street has accepted the permissive franchise and thereby undertaken to supply street car service to that point. 2. It is the duty of the respondent to render adequate service to the full extent of its undertaking, even though such service is not remunerative, so long as the respondent assumes to operate under the permissive ordinance. The respondent is ordered to operate its cars on La Crosse street from 18th street to 25th

street on the same schedule as that on which its cars are or may be operated on the remainder of its Oak Hill-Cemetery line. *Jones v. Wis. Ry. Lt. & P. Co.* 518, 523.

6. Doorstep street car service for all is not practicable, and the criterion must be the reasonableness of the distance which a patron is obliged to walk in order to obtain service. *In re Chippewa Val. R. L. & P. Co.* 713, 717.

Requirements as to service and facilities—Adequacy of service—Double track.

7. This is a supplementary order relating to matters decided in a proceeding of the same title on May 26, 1913 (12 W. R. C. R. 49) and October 6, 1913 (12 W. R. C. R. 797), and in *Elver v. So. Wis. Ry. Co.* on Nov. 26, 1912 (11 W. R. C. R. 67). It appears that the lack of adequate double track facilities has prevented the respondent from complying with the requirements of the Commission governing the maintenance of a five minute schedule on certain portions of the street railway system in the city of Madison and has interfered with the rendering of the tripper service ordered by the Commission. The respondent is ordered to make specified extensions of its double track facilities. Ninety days is deemed sufficient time within which to comply with this order. *Rodolf et al. v. So. Wis. Ry. Co.* 598, 600.

Requirements as to service and facilities—Adequacy of service—Duty to furnish service.

See ante, 5.

Requirements as to service and facilities—Adequacy of service—Relocation of track.

8. Petitioner asks authority to relocate its interurban line in the city of Eau Claire, Wis., along a specified route and requests that the Commission determine the adequacy of the service as proposed. The petitioner alleges that the mayor and council intend to object to the removal of the existing track after the new line shall have been constructed, and further alleges that it is willing to construct the proposed line and operate its interurban cars in the manner indicated, if such change will, in the opinion of the Commission, afford reasonably adequate service for that portion of the city. *Held:* The Commission is without jurisdiction to grant the prayer of the petitioner, which is in substance that petitioner be authorized to abandon its existing tracks upon the completion of a new route for which it holds a franchise. (*Lang v. City of La Crosse et al.* 1909, 3 W. R. C. R. 292, 298.) The abandonment of a line of street railway is a matter wholly within the jurisdiction of the common council. However, it seemed advisable to investigate the situation, and to recommend a course of action which, in the opinion of the Commission, will result in the most efficient service for the district in question. It is recommended that the petitioner apply to the city of Eau Claire for authority to abandon its tracks on Franklin, Fay, Putnam and Omaha streets, upon the completion of its new line along Madison street, Mount Tom Park and Starr avenue, as alrealy permitted by franchise; and that the city of Eau Claire grant such authority to the company. The adequacy of the proposed service is not passed upon, since it is a matter which can be more properly determined in the light of the traffic conditions resulting from the change of routing. *In re Chippewa Val. R. L. & P. Co.* 713, 717.

Requirements as to service and facilities—Adequacy of service—Remodeled cars.

9. Members of the Commission's engineering staff have investigated the remodeled cars now in use and report that their operation does

not result in unreasonable inconvenience to passengers, so long as the cars are maintained in proper repair. They are also of the opinion that the present traffic in Racine can be best handled by comparatively small cars. *City of Racine v. T. M. E. R. & L. Co.* 148, 149.

Requirements as to service and facilities—Adequacy of service—Routing of cars.

10. Complaint was made that the service of respondent from the Twenty-second ward of Milwaukee to the down-town district was inadequate and discriminatory, and the Commission was asked to require the respondent to provide through service over the routes suggested by petitioner and to establish a schedule adequately providing for the district's service demands. The service in the district in question was thoroughly investigated by the Commission in various aspects. It appeared that up to 8 o'clock in the morning and from 5:30 o'clock to 7 o'clock in the evening, i. e. during the rush hours, respondent operated through service to the center of the city, over one route only, that at other times persons had to transfer and wait, that the present arrangement was inconvenient and annoying, and that a total population of approximately 50,000 people was involved. It also appeared that the present arrangement of through lines in Milwaukee, necessitating the operation of more cars than are required by the traffic conditions during the non-rush hours in the down-town district, resulted in much wasted car mileage, and that additional extension of through down-town service during the off-peak period, instead of the proper development of cross-town lines, and the adjustment of the transfer system, would still further increase that waste. *Held:* The operation of continuous through service from the Twenty-second ward to the center of the city, in the manner suggested by the petitioner, would not be in accord with the best interests of the city. The development of the city has now reached the point where it is impossible for every city line to be routed to the down-town district. The existing cross-town lines should be preserved as such, and the extensions of the system to meet the needs of new territory added to the city should be accomplished by the establishment of other cross-town lines, rather than by the creation of new lines operating through the center of the city over already congested routes. However, during the rush hours, when large numbers of patrons are moving from an outlying district to the center of the city, it is only reasonable that through cars should be operated for their convenience. In addition to the present through service down town over the 27th street line via State street during rush hours, respondent should operate through cars from the Twenty-second ward to the center of the city via North avenue. It is ordered that the respondent operate through cars from the north terminus of its 27th street line to the down-town district via State street, and from the west terminus of its North avenue line of the down-town district via 8th street, during morning and evening rush hours as fixed in the Commission's former order, *In re Service of T. M. E. R. & L. Co. in Milwaukee*, 1913, 13 W. R. C. R. 178. The additional service ordered is to be in operation by September 1, 1914. *Twenty-second Ward Advancmt. Ass'n v. T. M. E. R. & L. Co.* 788, 792.

RATES.

See RATES—STREET RAILWAY.

SUBWAYS.

For separation of grades at railroad crossing, *see* RAILROADS, 17, 20, 22, 35.

SWITCH CONNECTIONS.

RIGHT OF SHIPPER TO SWITCH CONNECTIONS.

Spur track, construction of, ordered by Commission.

1. The petitioner asks that the respondent be required to construct, operate and maintain a spur track from the respondent's main line to the petitioner's lumberyard in the city of Racine, alleging that such a spur track is practically indispensable to the successful operation of the lumberyard, and that the construction and operation of the spur track would not be unusually unsafe and dangerous nor unreasonably harmful to the public interest. The respondent objects to the granting of the petition on the ground that the location of the spur track as prayed for by the petitioner would necessitate cutting the respondent's main track in high speed territory and operating trains against the current of traffic, thereby increasing the danger of accident. The respondent is willing, however, to install a spur track connected with its third track on the west side of its main line and opposite the petitioner's lumberyard and to establish a private crossing for the petitioner's use. The petitioner desires to have this spur track constructed if no other solution is feasible. It is ordered: (1) that the respondent construct and maintain a spur track west of its industrial track as specified, for the use of the petitioner; and (2) that the petitioner deposit with the respondent a sum specified to pay for the construction of the spur track, or, in lieu thereof, give bond in accordance with sec. 1797—11*m*—2 of the statutes. Thirty days is considered a sufficient time within which to comply with the order. If the respondent and the petitioner can reach some agreement relative to the extension of the east industrial track and an apportionment of the cost of the extension, or if a longer track, at an additional cost, west of the tracks is desired, the Commission will modify the present order accordingly. *Wecks Lbr. Co. v. C. & N. W. R. Co.* 114, 117.

SWITCHING CHARGES.

See TERMINAL CHARGES.

TAXES.

As element considered in making rates, for electric utilities, *see* RATES–ELECTRIC, 9.

TELEPHONE EXCHANGE.

Establishment of checking station in Prairie du Chien, *see* TELEPHONE UTILITIES, 1.

TELEPHONE RATES.

See RATES–TELEPHONE.

TELEPHONE UTILITIES.

Allowance to subscriber of a telephone utility on account of ownership of instrument or facility, reasonable rental permitted, *see* RATES–TELEPHONE, 11.

Cost of service of telephone utilities, determination of unit costs, *see* ACCOUNTING, 10–13.

Discrimination as between telephone subscribers, *see* DISCRIMINATION, 17–22.

different rates to stockholders and nonstockholders, *see* DISCRIMINATION, 17–18.

Discrimination, different rates to subscribers on account of ownership of instruments or facilities, *see* DISCRIMINATION, 19.
preference in calls, *see* DISCRIMINATION, 21.
Rebates or concessions, allowance to subscriber of telephone utility on account of ownership of instrument or facility, rate concession prohibited, *see* REBATES OR CONCESSIONS, 2.

ACCOUNTING.

See ACCOUNTING.

ESTABLISHMENT, CONSTRUCTION AND MAINTENANCE.

Checking station—Establishment of.

1. The Western Crawford County Farmers' Mutual Tel. Co. applies for authority to establish a checking station in the city of Prairie du Chien and for the connection of this station with all other telephone systems in the city. The applicant desires the station for the purpose of checking the joint business of the companies with which it is connected under the terms of the order issued in *Union Tel. Co. v. Western Crawford Co. F. M. T. Co. et al.* 1912, 11 W. R. C. R. 42. The applicant maintains a few telephones in the city, installed prior to the enactment of ch. 610, laws of 1913, but these are used solely for communication with rural subscribers and not for communication within the city. At the present time there are two lines within the city limits where checking would be required. One of these is a clear line to Eastman owned jointly by the applicant and the Union Tel. Co. The other is a clear line to Bridgeport leased by the Union Tel. Co. from the Tri-State Tel. Co. Calls over this line are checked by an operator representing each company and the checkings are compared daily. Calls in coming to Prairie du Chien over the Prairie du Chien-Eastman line are checked by both companies; those outgoing from Prairie du Chien over this line are checked only by the Union Tel. Co. but could be checked by the applicant, if desired, without a checking station. *Held:* 1. The applicant has no right to increase the number of its telephones in the city of Prairie du Chien except upon a showing that public convenience and necessity require another telephone exchange within the city for the purpose of rendering local service. *Citizens Tel. Co. of Eau Claire v. Railroad Comm. of Wis.* 1914, 146 N. W. 798. 2. Public convenience and necessity do not require an additional telephone exchange within the city of Prairie du Chien. 3. Inasmuch as the checking of traffic between the applicant and the Union Tel. Co. is now, or readily can be, satisfactorily accomplished without any additional facilities or expense, the location of a checking station within the city of Prairie du Chien is unnecessary under present conditions. The petition is dismissed. *In re Appl. Western Crawford Co. Farmers' Mut. Tel. Co.* 568, 572.

Construction of lines—Duplication of equipment of established utility not ordinarily the remedy for excessive rates or inadequate service.

See post, 2.

Construction of lines—Legality of construction in municipality in which there is already in operation a public utility engaged in similar service.

See post, 3.

Construction of line—Public convenience and necessity of extensions in particular cases—Sevastopol Farmers' Tel. Co. in Door county.

2. The Sevastopol Farmers Tel. Co. applies for a certificate of public convenience and necessity permitting it to construct a telephone system north from Sturgeon Bay, Door county, into the towns of Sevastopol, Egg Harbor and Jacksonport. The Door County Tel. Co. and Matt Peffer, each owning and operating rural telephone lines in the towns named, object to the granting of the certificate. The proposed new line would parallel the existing lines on the same highways for practically its entire length. This is sought to be justified by the alleged gross inadequacy of the service afforded by both of the existing systems. Because of the strength of the evidence offered on this point, an investigation of the service rendered by the objectors is ordered by the Commission on its own motion. The fact that existing telephone service is inadequate is not ordinarily sufficient to justify the issuance of a certificate of public convenience and necessity permitting a new company to enter territory already occupied and fully covered by existing companies, but recourse should be had to the method provided by the Public Utilities Law for the correction of defects in service. *Held:* Public convenience and necessity do not require the proposed construction. *In re Appl. Sevastopol Farmers' Tel. Co.* 524, 528.

Construction of line—Public convenience and necessity of extensions in particular cases—Town of Addison, Washington county.

3. Application was made for authority, through a certificate of public convenience and necessity, to construct in the town of Addison, Washington county, a telephone line to connect the residences of the various applicants, with a line of the Hartford Rural Tel. Co. The Allenton-Kohlsville Tel. Co. opposed the construction of the new line on the ground that it would compete directly with that company's line on the same highway and would actually deprive that line of subscribers. It appeared that the proposed line would be a little over two miles in length and would run for most of its distance parallel with the Allenton-Kohlsville line on the same highway; that Hartford and Allenton are centers of population quite distinct from one another; that the highway on which the applicants reside happens to be in the nature of a boundary line between the rural community tributary to Hartford and that tributary to Allenton; that some of the residents along this highway desire connection toward Hartford, while others prefer service toward Allenton; that the circumstances are such that a physical connection between the Hartford Rural Tel. Co. and the Allenton Kohlsville Tel. Co. would be impractical, and that the construction of the proposed line would not result in great loss to the Allenton-Kohlsville Tel. Co. *Held:* The construction, in the manner proposed by the applicants, of the line in question for telephone service, is required by public convenience and necessity. Where border territories are involved, it occasionally happens, as in the present case, that the public needs can only be satisfied by permitting a certain amount of overlapping. When such is the case, the convenience and necessity of the public itself in the matter of telephone service is the paramount consideration and the doctrine of protection for existing interests can not be carried to its full length. Ordinarily the appropriate remedy is a physical connection, the general policy of the law being usually against duplication of lines which will impair investments, and the action taken by the Commission in the present case is not to be looked upon as a precedent until a situation develops, which is similar in all respects to the pres-

ent one. *In re Constr. of a Tel. Line in Town of Addison, Wash. Co.* 766, 770.

Extension of lines—Authority from Commission necessary.

4. It appears to us that this a case in which, if the Lisbon Telephone Company had filed its notice with the Commission in the manner required by law, the Commission would have found that public convenience and necessity do not require the proposed extension. The company would not, therefore, have been legally entitled to proceed with the extension. The company should not, of course, be entitled to any greater privilege because it went ahead in violation of law than it would have had had it proceeded in conformity with the law. Chapter 610 of the laws of 1913 prescribes a specific procedure to be followed in the case of telephone extensions, and makes no provision for a case like the present, where the extension is made in violation of the statute. It does not appear, therefore, that we have authority to make an order requiring the Lisbon Telephone Company to remove its line, to discontinue giving service to Mr. Mamerow, and to refrain from installing service in the residence of Mr. Stiehl. The same result will probably be reached, however, by our statement that public convenience and necessity do not require the extension and that it exists in violation of law. Therefore, unless the Lisbon Telephone Company discontinues service to Mr. Mamerow and refrains from serving Mr. Stiehl, the way will be open for a prosecution. *In re Alleged Violation of Law by Lisbon Tel. Co.* 131, 135.

Extension of lines—Application of ch. 610, laws of 1913 (secs. 1797m—74) to extensions begun before law became effective.

5. The Earl Tel. Co. alleges that the Trego Tel. Co. extended its line in the summer and fall of 1913 without authority of law into territory already occupied by the Earl Tel. Co. The Trego Tel. Co. contends that inasmuch as it began the construction of the line prior to the enactment of ch. 610, laws of 1913, it was entitled to complete the line. The territory in question is in the main that which lies between the unincorporated villages of Earl and Springbrook in Washburn county. The Earl Tel. Co. has had for some years a line which runs through the village of Earl and for a mile or so in a northeasterly direction along the road toward Springbrook and another line which runs in a roundabout way into Springbrook. The extension which the Trego Tel. Co. is alleged to have built without authority follows the direct road out of Earl paralleling the Earl line to its terminus and continuing on the same highway to the village of Springbrook. A telephone company which had its poles hauled and ready to set for an extension of its line prior to the date on which ch. 610, laws of 1913, became effective is not prevented by this law from completing the construction of the line as marked out by the placing of the poles, for the legislature cannot be presumed to have intended the law to affect extensions already made or those in process of construction. The contention of the Earl Tel. Co. that the hauling and placing of the poles was for the purpose of constructing merely a toll line and that the officers of the Trego Tel. Co. later changed their minds and made the line into a local subscriber line is not supported by the evidence. *Held:* The Trego Tel. Co. did not violate ch. 610, laws of 1913, in constructing the extension in question. *Earl Tel. Co. v. Trego Tel. Co.* 457, 461.

Extension of lines—Duplication of equipment.

6. While the duplication of service rather than the actual paralleling of lines is the thing principally to be avoided in the construction of new telephone lines, the extension of a paralleling line from which no

service is permitted to be given to the persons living along it is likely to lead to friction and dissatisfaction, and the actual incumbering of the highway and the close proximity of the wires are also likely to be unsatisfactory. In the instant case the route proposed by the Chippewa County Tel. Co. which involves practically no paralleling of any line now furnishing local service to subscribers, seems to the Commission to be preferable to the alternative route proposed by the company which would parallel the Wis. Tel. Co.'s line for about half a mile and the Cadott Tel. Co.'s line for a mile and a half before reaching the point where it would enter new territory and take on subscribers of its own. *In re Proposed Extension Wis. Tel. Co. in town of Anson*, 510, 515–517.

Extension of lines—Duplication of equipment of established utility.

See post, 22.

Extension of lines—Duplication of equipment of established utility not ordinarily the remedy for excessive rates or inadequate service.

7. The fact that slightly quicker service may be obtained if a duplication of lines is permitted is not necessarily sufficient to justify such duplication. If the service furnished by the Pewaukee-Sussex Tel. Co. is inadequate, recourse should be had to the remedies provided by law before resorting to the duplication of existing equipment. *In re Alleged Violation of Law by Lisbon Tel. Co.* 131, 133, 134.

8. The subscriber in question states that he discontinued the service of the Rock County Tel. Co. because of its poor quality and the lack of adequate long distance connections. Where the line of one telephone company already runs on a highway past a residence and is serving that residence or is able to serve it reasonably well another telephone company ought not usually to be permitted to construct a parallel line on the same highway to reach the residence in question. If the service rendered by the Rock County Tel. Co. is inadequate the matter should be brought before the Commission in the usual way. *In re Proposed Extension Wis. Tel. Co.* 396, 399–401.

Extension of lines—Duplication of equipment of established utility—When permitted.

See also post, 13.

9. The fact that the paralleling of lines proposed would be only a quarter of a mile long does not make such paralleling any less a violation of the statutes. This situation has arisen several times before the Commission, and permission to parallel has uniformly been refused. (*In re Proposed Extension of the Lines of the Ettrick Tel. Co.* 1913, 12 W. R. C. R. 744; *In re Proposed Extension of the Lines of the Clinton Tel. Co.* 1913, 13 W. R. C. R. 166; *In re Proposed Extension of the Lines of the West Kewaunee & Western Tel. Co.* 1914, 14 W. R. C. R. 219; *In re Alleged Violation of Chapter 610 of the Laws of 1913 by the Lisbon Tel. Co.* 1914, 14 W. R. C. R. 131.) *In re Proposed Extension Wis. Tel. Co.* 396, 398.

Extension of lines—Extension contrary to law—Cornell Tel. Co. in town of Holcombe, Chippewa county.

See post, 13.

Extension of lines—Extension contrary to law—East Valley Tel. Co. in towns of Scott and Sherman, Sheboygan county.

10. The East Valley Tel. Co. notified the Commission of a proposed extension of its line in the towns of Scott and Sherman, Sheboygan

county. The construction of the line in question in the fall of 1913 was technically a violation of ch. 610 of the laws of 1913. But it seems that, while the law went into effect July 10, 1913, its provisions were not clearly understood by the telephone utilities of the state until some time later. *Held:* The evidence does not indicate any wilful violation of the law, but rather a failure to comprehend its requirements. Had the East Valley Tel. Co. notified the Commission in the regular way of its proposed extension, and had the same facts been placed before the Commission as those considered in the present case, it would have been impossible to find that public convenience and necessity did not require the extension. Under the circumstances, the Commission will take no action looking toward the withdrawal of the East Valley Tel. Co. from the territory in which the new extension was built. *In re Proposed Extension East Valley Tel. Co.* 802, 804.

Extension of lines—Extension contrary to law—Lisbon Tel. Co. in town of Lisbon.

11. The Commission, on its own motion, investigated an informal complaint made by the Pewaukee-Sussex Tel. Co. that the Lisbon Tel. Co. had violated ch. 610, laws of 1913. It appears that the Lisbon Tel. Co. in the fall of 1913 extended its line along the Lisbon Plank Road in the town of Lisbon without filing notice, as required by the law cited, with the Commission and with the Pewaukee-Sussex Tel. Co., which was already operating a line for local service along the road named. This violation of law seems, however, not to have been wilful and the matter of the extension is therefore considered as if the case were before the Commission in the manner contemplated by the statute. The extension is desired by certain residents along the Lisbon Plank Road who allege that the Lisbon Tel. Co. is in a position to afford them more direct connection and better service to the village of Sussex than is the Pewaukee-Sussex Tel. Co. The fact that slightly quicker service may be obtained if a duplication of lines is permitted is not necessarily sufficient to justify such duplication. *Held:* The extension in question, so far as it reaches the Lisbon Plank Road and residences long the road, is not required by public convenience and necessity and is in existence in violation of law. Though the Commission apparently has no authority to order the Lisbon Tel. Co. to cease giving service to subscribers along the road named, the failure of the company to discontinue such service will render the company liable to prosecution. If the service furnished by the Pewaukee-Sussex Tel. Co. is inadequate recourse should be had to the remedies provided by law before resorting to the duplication of existing equipment. *In re Alleged Violation of Law by Lisbon Tel. Co.* 131, 135.

Extension of lines—Legality of extension in municipality in which there is already in operation a public utility engaged in similar service.

See also ante, 11.

12. In our judgment the extension of the service of the Wisconsin Telephone Company into territory already occupied by the local company is not warranted by the local conditions. Such an extension would inevitably result in duplication of equipment, and, unless carefully safeguarded, in the ultimate outing of the less powerful company. It is the express intent of chapter 610 of the laws of 1913 to eliminate the waste of such unwarranted competition, and the Commission has repeatedly refused to countenance the extension of lines where adequate service can be rendered by the company already in the field. *In re Invest. People's Tel. Co. et al. at Fall River,* 793, 795.

13. The Cornell Tel. Co. filed notice with the Commission of a proposed extension of its lines in the town of Holcombe, Chippewa county. It appeared that prior to July 11, 1913, the date on which ch. 610, laws of 1913, amending sec. 1797*m*—74 of the statutes, under which this proceeding arises, went into effect, the company was giving certain service in the village of Holcombe, and that prior to the hearing the extensions here involved were made under the misapprehension that the village was incorporated. It did not appear that the demand, which the new service satisfied, could not have been met by the Chippewa County Tel. Co., whose lines the extensions in question paralleled. *Held:* Respondent is ordered to permanently discontinue all local service given from such of its lines as were constructed in the town of Holcombe since July 11, 1913. *In re Extension Cornell Tel. Co.* 814, 816.

Extension of lines—Proposed extension permitted by law unless Commission finds that public convenience and necessity do not require the extension.

14. The Anti-duplication Law permits a proposed extension to be made unless the Commission makes a definite finding that public convenience and necessity do not require the extension. The Commission cannot make such a finding on the mere ground that the company objecting to the making of an extension by another company has been longer established than the other in the town in which the extension is to be made and has the preponderating line mileage and number of subscribers in that town. *In re Proposed Extension of Wis. Tel. Co.* 441, 443.

15. Since both companies in the instant case have complied with the legal requirements precedent to the extension by filing the notices required by law, the conclusion that public convenience and necessity require the service of the Chippewa county line necessarily results in the further conclusion that public convenience and necessity do not require the line of the Wisconsin Telephone Company. *In re Proposed Extension Wis. Tel. Co. in town of Anson*, 510, 515–517.

16. Ordinarily, when territory is entirely unoccupied, there is a plain public convenience and necessity requiring some telephone service, and when one company is aggresive enough in the promotion of its business to take steps toward entering the territory, it is difficult to say there is no public convenience and necessity requiring its line. Thus, it is very unlikely that the Commission could have made a finding adverse to the East Valley Telephone Company had its notice been filed in the usual way and in strict compliance with the law. *In re Proposed Extension East Valley Tel. Co.* 802, 803–804.

Extension of lines—Public convenience and necessity of extensions in particular cases—East Valley Tel. Co. in towns of Scott and Sherman, Sheboygan county.

17. The East Valley Tel. Co. notified the Commission of a proposed extension of its line in the towns of Scott and Sherman, Sheboygan county. Upon investigation by the Commission it was found that the line had already been built, and that its eastern end was about a mile west of the nearest point on the Random Lake Tel. Co.'s line. The territory involved was new and unoccupied, but the Random Lake Tel. Co. considered it as belonging to itself, and objected to the extension for that reason. However, the latter company had not instituted proceedings before the Commission with a view to obtaining the right to build. The construction of the line in question in the fall of 1913 was technically a violation of ch. 610 of the laws of 1913. But it seems that, while the law went into effect July 10, 1913, its provisions were not clearly understood by the telephone utilities of the state until some time later. *Held:* The evidence does not indicate any wilful violation

of the law, but rather a failure to comprehend its requirements. Had the East Valley Tel. Co. notified the Commission in the regular way of its proposed extension, and had the same facts been placed before the Commission as those considered in the present case, it would have been impossible to find that public convenience and necessity did not require the extension. Under the circumstances, the Commission will take no action looking toward the withdrawal of the East Valley Tel. Co. from the territory in which the new extension was built. *In re Proposed Extension East Valley Tel. Co.* 802, 804.

Extension of lines—Public convenience and necessity of extensions in particular cases—Lisbon Tel. Co. in town of Lisbon.

18. The extension in question, so far as it reaches the Lisbon Plank Road and residences along the road, is not required by public convenience and necessity and is in existence in violation of law. *In re Alleged Violation of Law by Lisbon Tel. Co.* 131, 135.

Extensions of lines—Public conveniences and necessity of extensions in particular cases—Mattoon Tel. Co. in town of Norwood, Langlade county.

19. The Mattoon Tel. Co. filed notice with the Commission of its intention to extend its line to the unincorporated village of Phlox in the town of Norwood, Langlade county. The Antigo Tel. Co. objects to the proposed extension. The line which the Mattoon Tel. Co. desires to extend is authorized, though not yet constructed, to a point a half mile short of the village. The Antigo Tel. Co. has a toll line extending from Antigo through Phlox to Mattoon and renders service between Phlox and Mattoon at its regular toll rates. Service over the proposed extension would be free of toll charge. *Held:* Inasmuch as the village of Phlox already has adequate telephone connections, it cannot be said that public convenience and necessity require, the extension of the Mattoon line for local service into the village. If the toll rate charged by the Antigo Tel. Co. is excessive, the Commission can reduce the rate upon the institution of proper proceedings. *In re Proposed Extension Mattoon Tel. Co.* 329, 331.

Extension of lines—Public convenience and necessity in particular cases—Mayville Rural Tel. Co. in towns of Theresa and Herman, Dodge county.

20. The Mayville Rural Tel. Co. filed notice with the Commission of its intention to make certain extensions of its lines in the towns of Theresa and Herman in Dodge county. The Theresa Union Tel. Co. objects to the proposed extensions insofar as the rendering of service to four of the proposed subscribers is concerned. Three of these subscribers reside on the highway on which the line of the objector is in operation and one resides a few rods east of the highway, and therefore still farther away from the line of the Mayville Rural Tel. Co. The desire of prospective subscribers of a proposed extension of a telephone line to be on the same line as their neighbors so that they may converse without ringing central office does not seem to be a sufficient reason for permitting the duplication of an existing line. *Held:* Public convenience and necessity do not require the proposed extensions insofar as such extensions would serve subscribers located along or east of the highway along which the line of the Theresa Union Tel. Co. extends. The extension proposed to be made west of this highway will be permitted to proceed. *In re Proposed Extension Mayville Rural Tel. Co.* 402, 404.

Extension of lines—Public convenience and necessity of extensions in particular cases—Random Lake Tel. Co. in town of Sherman, Sheboygan county.

21. The Random Lake Tel. Co. filed notice with the Commission of its intention to extend its line parallel to the line of the East Valley Tel. Co. from a point some two miles southwest of Adell, Wis., toward the village of Adell. It appeared that a physical connection between the two companies was feasible, that in fact a line was being built for that purpose, and that, when completed, the desired service could thereby be afforded to the parties who were involved in the present case and wished the proposed extension. *Held:* The extension of the line in question in the manner proposed is not required by public convenience and necessity. Since a physical connection would furnish an adequate, feasible remedy, the building of the extension would result in the sort of unnecessary duplication which the law seeks to avoid. *In re Proposed Extension of the Random Lake Tel. Co.* 757, 758.

Extension of lines—Public convenience and necessity of extensions in particular cases—West Kewaunee and Western Tel. Co. in the towns of West Kewaunee and Montpelier, Kewaunee county.

22. The West Kewaunee & Western Tel. Co. filed notice with the Commission of its intention to extend its lines in the towns of West Kewaunee and Montpelier in Kewaunee county. The Horseshoe Tel. Co. objects to the proposed extensions on the ground that they would duplicate parts of its system. The fact that the rates of a telephone company are higher than those of a competing company is not usually sufficient reason for allowing the latter company to parallel the lines of the former company. If the rates of the former company are excessive their reduction should be secured in the usual way by complaint to the Commission. Where two telephone lines proceed along the same road and render substantially equal service it would ordinarily be improper to permit the shorter line to be extended beyond the end of the longer line to take on subscribers in territory beyond when the longer line is ready and willing to make the same extension and can do so with much less investment and without causing any more paralleling of lines than already exists. The contention of the West Kewaunee & Western Tel. Co. that it is not a public utility, for the reason that all its subscribers are stockholders, cannot be granted in view of the fact that the company uses the highways of the state for its pole and wire lines and the further fact that the company apparently holds itself out as giving a public telephone service as distinguished from a purely private service. *Held:* Public convenience and necessity do not require either of the extensions proposed by the West Kewaunee & Western Tel. Co. This short paralleling of the Horseshoe Tel. Co.'s line necessary to permit the Western Kewaunee & Western Tel. Co. to extend its service to the cheese factory of its president will not, however, be prohibited, inasmuch as the Horseshoe Tel. Co. does not oppose this extension. *In re Proposed Extension of West Kewaunee & W. Tel. Co.* 219, 224.

Extension of lines—Public convenience and necessity of extensions in particular cases—Wis. Tel. Co. in town of Anson, Chippewa county.

23. When there is a question as to which of two telephone companies shall be allowed to serve a given territory which is about equidistant from the lines of both companies and which is entirely new to both

companies, so that neither will have to have its existing investment in any way impaired by the extension of the other, consideration may well be given to some matters that might be extraneous to the issue if an actual duplication of lines were contemplated. Among these are the preponderance of the subscribers of one company in the territory in question, the number and local importance of the points that can be reached without the use of toll lines, the relative length of time the two companies have been operating in the surrounding territory, and the business and social habits and needs of the individuals who are to use the new service. The greater diligence of one company in securing subscribers may also be taken into account in some cases. While the duplication of service rather than the actual paralleling of lines is the thing principally to be avoided in the construction of new telephone lines, the extension of a paralleling line from which no service is permitted to be given to the persons living along it is likely to lead to friction and dissatisfaction, and the actual incumbering of the highway and the close proximity of the wires are also likely to be unsatisfactory. In the instant case the route proposed by the Chippewa County Tel. Co. which involves practically no paralleling of any line now furnishing local service to subscribers, seems to the Commission to be preferable to the alternative route proposed by the company which would parallel the Wis. Tel. Co.'s line for about half a mile and the Cadott Tel. Co.'s line for a mile and a half before reaching the point where it would enter new territory and take on subscribers of its own. *Held:* Public convenience and necessity do not require the extensions proposed by the Wisconsin Tel. Co. to reach the six prospective subscribers involved in the issue between the Wis. Tel. Co. and the Chippewa County Tel. Co. No finding is made with respect to the other extensions covered by the amended proposal of the Wis. Tel. Co. or the extensions covered by the amended proposal of the Chippewa County Tel. Co. for the reason that authority vests in the respective companies by operation of law to proceed with the extensions in question as soon as the twenty day limit fixed by the statute has expired. *In re Proposed Extension Wis. Tel. Co. in town of Anson*, 510, 517.

Extension of lines—Public convenience and necessity of extensions in particular cases—Wis. Tel. Co. in town of Rock, Rock county.

24. The Wis. Tel. Co. filed notice with the Commission of its intention to extend its line for local service in section 6 in the town of Rock, Rock county. The Rock County Tel. Co. objects to the proposed extension. The Wis. Tel. Co. desires to make the extension, which would be about a quarter of a mile long, for the purpose of serving a subscriber who formerly received service from the Rock County Tel. Co. whose line runs directly past his residence. The subscriber in question states that he discontinued the service of the Rock County Tel. Co. because of its poor quality and the lack of adequate long distance connections. Where the line of one telephone company already runs on a highway past a residence and is serving that residence or is able to serve it reasonably well, another telephone company ought not usually to be permitted to construct a parallel line on the same highway to reach the residence in question. The fact that the paralleling of lines proposed would be only a quarter of a mile long does not make such paralleling any less a violation of the statutes. *Held:* Public convenience and necessity do not require the proposed extension. If the service rendered by the Rock County Tel. Co. is inadequate the matter should be brought before the Commission in the usual way. The complaint with respect to the long distance connections of the company need not be passed upon here for the reason that there is now pending before the Commission a proceeding against the two telephone companies here in-

volved in which physical connection between them for long distance service is asked. *In re Proposed Extension Wis. Tel. Co.* 396, 401.

Extension of lines—Public convenience and necessity of extensions in particular cases—Wis. Tel. Co. in town of Rock, Rock county.

25. The Wis. Tel. Co. filed notice with the Commission of its intention to extend its line south in the town of Rock between sections 7 and 8 and between sections 17 and 18 to reach three prospective subscribers. The Rock County Tel. Co. objects to the proposed extension. Two of the prospective subscribers reside in section 7, which is in territory now without telephone service and about equidistant from the lines of the two companies. The third prospective subscriber resides in section 18 and now has the service of the Rock County Tel. Co. over a line a quarter of a mile long on which he is sole subscriber and which was constructed for the purpose of giving him service, but is said to desire the service of the Wis. Tel. Co. for the reason that he has another farm located in section 7 at which he has the service of the Wis. Tel. Co. A proceeding having for its object the establishing of physical connection between the Wis. Tel. Co. and the Rock County Tel. Co. is now pending before the Commission. The Anti-duplication Law permits a proposed extension to be made unless the Commission makes a definite finding that public convenience and necessity do not require the extension. The Commission cannot make such a finding on the mere ground that the company objecting to the making of an extension by another company has been longer established than the other in the town in which the extension is to be made and has the preponderating line mileage and number of subscribers in that town. *Held:* Public convenience and necessity do not require the extension proposed insofar as the territory south of sections 7 and 8 is concerned. No finding is made with respect to the proposed extension to the two residences in section 7 and the Wis. Tel. Co. will therefore be authorized by the operation of law to proceed with the extension to these points. *In re Proposed Extension Wis. Tel. Co.* 441, 444.

Extension of lines—Service in territory equidistant from lines of two companies—Which company shall serve.

26. When there is a question as to which of two telephone companies shall be allowed to serve a given territory which is about equidistant from the lines of both companies and which is entirely new to both companies, so that neither will have to have its existing investment in any way impaired by the extension of the other, consideration may well be given to some matters that might be extraneous to the issue if an actual duplication of lines were contemplated. Among these are the preponderance of the subscribers of one company in the territory in question, the number and local importance of the points that can be reached without the use of toll lines, the relative length of time the two companies have been operating in the surrounding territory, and the business and social habits and needs of the individuals who are to use the new service. The greater diligence of one company in securing subscribers may also be taken into account in some cases. *In re Proposed Extension Wis. Tel. Co. in town of Anson*, 510, 515.

Extension of service—Statutory requirements.

27. It is the express intent of ch. 610 of the laws of 1913 to eliminate the waste of unwarranted competition, and the Commission has repeatedly refused to countenance the extension of lines where adequate service can be rendered by the company already in the field. *In re Invest. People's Tel. Co. et al. at Fall River*, 793, 795.

Telephone exchange—Public convenience and necessity of additional exchanges in particular cases—Western Crawford Co. Farmers' Mut. Tel. Co. in city of Prairie du Chien.

28. The Western Crawford County Farmers' Mutual Tel. Co. applies for authority to establish a checking station in the city of Prairie du Chien and for the connection of this station with all other telephone systems in the city. The applicant desires the station for the purpose of checking the joint business of the companies with which it is connected under the terms of the order issued in *Union Tel. Co. v. Western Crawford Co. F. M. T. Co. et al.* 1912, 11 W. R. C. R. 42. The applicant maintains a few telephones in the city, installed prior to the enactment of ch. 610, laws of 1913, but these are used solely for communication with rural subscribers and not for communication within the city. At the present time there are two lines within the city limits where checking would be required. One of these is a clear line to Eastman owned jointly by the applicant and the Union Tel. Co. The other is a clear line to Bridgeport leased by the Union Tel. Co. from the Tri-State Tel. Co. Calls over this line are checked by an operator representing each company and the checkings are compared daily. Calls in coming to Prairie du Chien over the Prairie du Chien-Eastman line are checked by both companies; those outgoing from Prairie du Chien over this line are checked only by the Union Tel. Co. but could be checked by the applicant, if desired, without a checking station. *Held:* 1. The applicant has no right to increase the number of its telephones in the city of Prairie du Chien except upon a showing that public convenience and necessity require another telephone exchange within the city for the purpose of rendering local service. *Citizens Tel. Co. of Eau Claire v. Railroad Comm. of Wis.* 1914, 146 N. W. 798. 2. Public convenience and necessity do not require an additional telephone exchange within the city of Prairie du Chien. The petition is dismissed. *In re Appl. Western Crawford Co. Farmers' Mut. Tel. Co.* 568, 572.

OPERATION.

Physical connection—Establishment of—Conditions precedent.

29. In a previous case (*Winter v. La Crosse Tel. Co. et al.* 1913, 11 W. R. C. R. 748) the Commission held that to justify the public obligation usually imposed by "public convenience and necessity" there must be present some imperative public exigency. It is inevitable in such a situation as that at Janesville that the aggregate loss of time, inconvenience and annoyance through the absence of such physical connection as is here requested must be great, and the conclusion is equally inevitable that a public exigency demands physical connection. *McGowan v. Rock County Tel. Co. et al.* 529, 537.

Physical connection—Establishment of, in particular cases.

See also ante, 21.

30. The petitioners, who are subscribers of the Readfield Tel. Co., ask that physical connection be established between the lines of the Readfield Tel. Co. and those of the Fremont Tel. Co. in such manner as to enable the subscribers of the two companies to communicate with the village of Fremont and the village of Readfield. The telephone companies are willing to make the desired connection upon proper terms and conditions. It is ordered that the physical connection requested be made. A toll of 10 cts. per message is to be exacted from parties desiring limited service and a monthly charge of 25 cts. from those desiring unlimited service. Each company is to retain the revenues originating on its own lines. *Johnson et al. v. Readfield Tel. Co. et al.* 102, 103.

31. The petitioner alleges that public convenience and necessity require physical connection between the local systems and toll lines of

the Rock County Tel. Co. and those of the Wis. Tel. Co. in the city of Janesville and asks that the Commission investigate the matter as provided by ch. 546, laws of 1911. Both the respondent companies furnish local and long distance service. The Wis. Tel. Co. has a decided advantage as to toll business, while the Rock County Tel. Co. has a slight advantage as to local business. Competition between the two companies appears to have been very keen, as well as unprofitable to both companies. The local rates of the two companies are practically the same. Only a small majority of the business establishments and a very small proportion of the residences connected with either of the two exchanges have the phones of both companies and the Wis. Tel. Co. refuses to transmit over the lines of the Rock County Tel. Co. messages coming over its own lines for parties who are subscribers of the Rock County Tel. Co. but not of the Wis. Tel. Co. The only connection between the two companies is that afforded by a Rock County phone which the Wis. Tel. Co. has installed in its office and which it uses to notify parties having Rock County phones, but not the phones of the Wis. Tel. Co., of calls which come for them over the Wis. Tel. Co.'s lines. Parties thus notified are compelled to go to a phone of the Wis. Tel. Co. in order to communicate with the party calling. Intercommunication between the rural subscribers is even more difficult than between subscribers in the city and the rural subscribers of the Rock County Tel. Co. are practically deprived altogether of the long distance service of the Wis. Tel. Co. The contention of the Wis. Tel. Co. that ch. 546, laws of 1911, is invalid for the reason that it violates certain guarantees of property rights found in the constitution of the United States and that the Commission is therefore without authority in the premises, was disposed of in *Winter v. La Crosse Tel. Co. et al.* 1913, 11 W. R. C. R. 748, and the principles there stated are here followed. The contention of the Wis. Tel. Co. that it would suffer irreparable loss under the physical connection desired by the petitioner through the effect on the business of its local exchange is not valid. Subscribers of either company who are in a position to also become subscribers of the other and who desire to be connected with the other company's exchange, for the purpose of either local or toll service, can be required to pay the company of which they are not subscribers a small toll for the privilege, so adjusted as to substantially preserve the *status quo* of the two companies so far as any effect of the charge itself is concerned. No charge in excess of the cost of service and reasonable compensation should be made, however, to those rural subscribers and patrons of connecting companies who have and can have the service of only one company available to them under the terms of the Anti-duplication Law. *Held:* Public convenience and necessity require a physical connection between the exchanges of the respondent companies for the interchange of both local and long distance service. Such connection will not result in irreparable injury to the owners or other users of the facilities of the two companies nor in substantial detriment to the service to be rendered by them. It is ordered: (1) That the respondents make such physical connection or connections between their toll lines and between their local systems in the city of Janesville as is required for the furnishing of toll line and local service, including rural service, to the subscribers of each company, at the stations installed in their residences and places of business over the toll lines and local lines, including rural lines of the other company; and (2) that the expense of making such physical connection or connections be apportioned equally between the respondents. The point and extent of the connection ordered are left to the respondents to agree upon. Thirty days is deemed a reasonable time within which to comply with the order. *McGowan v. Rock County Tel. Co. et al.* 529, 541.

32. The complainants petition the Commission to reëstablish physical connection between their lines and those of respondent at Hub City,

and at what was formerly known as Rego's switch in Vernon county. It appears that the lines of the three companies were connected at these points up to about one year ago, at which time a disagreement occurred over the amount which the complainants should pay to the respondent for switching fees, with the result that the respondent disconnected its lines from the switches in question. The respondent telephone company connects with the exchange of the Richland Telephone Company at Richland Center—the complainant companies with the exchange of the Cazenovia Telephone Company at Cazenovia. It appears that this connection had existed some twelve years, that Cazenovia was the nearest market for some of respondent's subscribers and also that a connection was desirable for a number of complainants' subscribers in the neighborhood of Hub City. *Held:* It is the conclusion of the Commission that the physical connection asked is (1) required by public convenience and necessity, and that (2) it will not result in irreparable injury to the owner or other users, nor (3) in substantial detriment to the service. Under such a state of facts sec. 1797*m*—4 of the statutes imposes upon the Commission the power and duty of requiring physical connection, and it is therefore so ordered. *Hawkins Creek Tel. Co. et al. v. Badger Tel. Co.* 655, 668.

33. Complaint was made that the telephone service at Fall River, Wis., was inadequate, and that the toll lines furnishing a physical connection between the exchange of the People's Tel. Co. at Fall River, and the exchange of the Wis. Tel. Co. at Columbus were inadequate for the traffic, and the Commission was asked to require the People's Tel. Co. to furnish adequate service, and to authorize and direct the Wis. Tel. Co. to furnish direct service to Columbus for such business men and residents of Fall River as desire it. It seems that general standards of adequate telephone service are to be made effective by the Commission in the near future, and that since the filing of the complaint the service of the People's Tel. Co. has become concededly satisfactory in most respects. There is no question that it is physically possible for the People's Tel. Co. to render adequate service with its local exchange, and with a sufficient number of direct connecting lines between its Fall River exchange and the Columbus exchange of the Wis. Tel. Co., and that the extension requested would result in duplication of equipment, and unwarranted competition, both of which ch. 610, laws of 1913, aims to eliminate. *In re Invest. People's Tel. Co. et al. at Fall River*, 793, 795.

34. The remedy for the situation in the instant case is a physical connection between the companies by which messages can be interchanged without the duplication of lines. It is almost inevitable that in case of an extension of a telephone line into unoccupied territory intermediate between two companies, some of the residents will prefer the service of the company which is not making the extension, and in some such cases where physical connection is not feasible it has been found necessary to permit some overlapping and paralleling of telephone lines in order to serve the real public needs. Here, however, a physical connection is not only feasible but is in process of construction between the two companies and, we are advised, will soon be in operation. *In re Proposed Extension East Valley Tel. Co.* 802, 804.

Physical connection—Establishment of—Protection of property rights.

35. The contention of the Wis. Tel. Co. that ch. 546, laws of 1911, is invalid for the reason that it violates certain guarantees of property rights found in the constitution of the Unitel States and that the Commission is therefore without authority in the premises, was disposed of in *Winter v. La Crosse Tel. Co. et al.* 1913, 11 W. R. C. R. 748, and the principles there stated are here followed. *McGowan v. Rock County Tel. Co. et al.* 529, 531–533.

Physical connection—Establishment of—Statutory requirements.

36. To justify the public obligation usually imposed by "public convenience and necessity" there must be present some imperative public exigency. It is inevitable in such a situation as that at Janesville that the aggregate loss of time, inconvenience, and annoyance through the absence of such physical connection as is here requested must be great, and the conclusion is equally inevitable that a public exigency demands physical connection. *McGowan v. Rock County Tel. Co. et al.* 529, 537.

37. Section 1797*m*—4 of the statutes imposes upon the Commission the power and duty of requiring physical connection, and it is therefore so ordered in the instant case. *Hawkins Creek Tel. Co. et al. v. Badger Tel. Co.* 655, 661–664.

Physical connection—Establishment of—Statutory requirements—Constitutionality.

38. The respondent alleges that the petitioner is without authority, right, or capacity to file or present the foregoing petition; that ch. 546 of the laws of 1911, pursuant to which the petition purports to be filed, is in violation of and in conflict with sec. 1 of article IV, sec. 2 of article VII, and secs. 5, 13 and 22 of article I of the constitution of the state of Wisconsin, and with sec. 10 of article I, of the constitution of the United States, and of sec. 1 of the fourteenth amendment to said constitution. The objections to the jurisdiction of the Commission based upon the alleged invalidity of the statute involved in these proceedings were also set up in the answer and disposed of in the case of *Winter v. La Crosse Tel. Co. et al.* 1913, 11 W. R. C. R. 748. *McGowan v. Rock County Tel. Co. et al.* 529, 531–533.

Physical connection—Establishment of—Terms and conditions of joint use.

39. The decision issued in this matter Jan. 5, 1914, 13 W. R. C. R. 538, left for future determination the terms finally to be fixed for the physical connection ordered to be restored between the petitioner and the respondent at the village of Owen. A traffic study of all calls passing through the respondent's exchange at Owen and a valuation of the portion of the respondent's poles, wire and switchboard used by the petitioner have been made for the purpose of determining the costs properly chargeable to the patrons of the petitioner for the service rendered by the respondent. The rates now temporarily in effect under the former order give the petitioner's patrons the option of paying a flat rate of $3 per year, or 10 cts. per message, aside from regular long distance tolls, for the service in question in this proceeding. All of the revenue from the $3 flat rate is retained by the respondent, while the revenue from the 10 ct. message rate is divided in the proportion of 3⅓ cts. to the respondent and 6⅔ cts. to the petitioner. *Held:* The flat rate of $3 per phone per year proposed by the respondent for application to all subscribers of the petitioner cannot be approved. The exaction by the petitioner of a 6⅔ cts. charge on each call is somewhat exorbitant for the service rendered by the petitioner to its patrons. A 5 ct. message charge, divided 3 cts. to the respondent and 2 cts. to the petitioner, would be a more nearly proper charge, and would work to the better interests of the patrons using the message rate service. In its other aspects the present arrangement, with slight modifications, will meet the needs of the situation. It is ordered that the respondent continue to furnish telephone service to the petitioner, on the basis of a $3 flat rate and a 5 ct. message rate combined, as prescribed by the Commission. No charge is to be made for calls from subscribers con-

nected to the respondent's exchange at Owen to the petitioner's subscribers, but the cost of this service is to be considered as included in the regular rates paid by the respondent's subscribers. Charges for long distance service through the respondent's exchange, either to or from the petitioner's subscribers, are in all cases to be the same as the charges made for this service to or from the respondent's subscribers. In case the total revenue received by the respondent from the petitioner's line for any one year amounts to less than $1 per telephone connected to the petitioner's line, the petitioner is to pay the difference between the two amounts to the respondent. *Curtiss & Withee Tel. Co. v. Owen Tel. Co.* 419, 426.

40. On account of the terms of the Anti-duplication Law, ch. 610 of the laws of 1913 (amending sec. 1797*m*—74), which aims to prevent uneconomic competition and duplication, it would seem that no charge in excess of the cost of the service and reasonable compensation should be made to those rural subscribers and patrons of connecting companies who have and could have only the service of one company or the other available to them under the foregoing law. As the cost of making the connections will not be great and the benefits derived will be mutual, each company will be required to pay one-half of the cost. *McGowan v. Rock County Tel. Co. et al.* 529, 538–539, 541.

Physical connection—Establishment of—Terms and conditions of joint use—Actual cost of service.

See ante, 39.

Physical connection—Establishment of—Terms and conditions of joint use—Traffic conditions.

See ante, 39.

Physical connection—Impracticability of—In particular cases.

41. Where border territories are involved, it occasionally happens, as in the instant case, that the public needs can only be satisfied by permitting a certain amount of overlapping. When such is the case, the convenience and necessity of the public itself in the matter of telephone service is the paramount consideration and the doctrine of protection for existing interests can not be carried to its full length. Ordinarily the appropriate remedy is a physical connection, the general policy of the law being usually against duplication of lines which will impair investments, and the action taken by the Commission in the present case is not to be looked upon as a precedent until a situation develops which is similar in all respects to the present one. In the instant case the circumstances are such that a physical connection between the Hartford Rural Tel. Co. and the Allenton Kohlsville Tel. Co. would be impractical, and that the construction of the proposed line would not result in great loss to the Allenton-Kohlsville Tel. Co. *In re Constr. of a Tel. Line in Town of Addison, Wash. County*, 766, 767–770.

Requirements as to service and facilities—Adequacy of service.

42. The fact that slightly quicker service may be obtained if a duplication of lines is permitted is not necessarily sufficient to justify such duplication. If the service furnished by the Pewaukee-Sussex Tel. Co. is inadequate recourse should be had to the remedies provided by law before resorting to the duplication of existing equipment. *In re Alleged Violation of Law by Lisbon Tel. Co.* 131, 133–134.

43. The Troy & Honey Creek Tel. Co. applies for authority to increase its rates. Subscribers of the applicant object on the ground (1) that the applicant's service is inadequate and (2) that the rates at present in effect are sufficient. A valuation was made, the revenues and ex-

penses were analyzed and the applicant's service over its own system and to connecting companies was investigated. *Held:* 1. The service rendered by the applicant is inadequate. 2. The applicant's present rates require revision to (a) provide a reasonable return to the applicant and (b) promote the improvement of the service. *In re Appl. Troy & Honey Creek Tel. Co.* 157, 177.

44. The subscriber in question states that he discontinued the service of the Rock County Tel. Co. because of its poor quality and the lack of adequate long distance connections. If the service rendered by the Rock County Tel. Co. is inadequate the matter should be brought before the Commission in the usual way. *In re Proposed Extension Wis. Tel. Co.* 396, 401.

45. The rules proposed by the applicant appear to be reasonable with the exception of certain ones which should be modified. Among others the provision that the applicant will not hold itself liable to furnish party line service unless the line can be kept full to capacity should be rescinded and the applicant should hold itself in readiness to furnish party line service. *In re Appl. Badger State Tel. & Teleg. Co.* 407, 417–418.

46. Complaint was made that the telephone service at Fall River, Wis., was inadequate, and that the toll lines furnishing a physical connection between the exchange of the People's Tel. Co. at Fall River, and the exchange of the Wis. Tel. Co. at Columbus were inadequate for the traffic, and the Commission was asked to require the People's Tel. Co. to furnish adequate service, and to authorize and direct the Wis. Tel. Co. to furnish direct service to Columbus for such business men and residents of Fall River as desire it. General standards of adequate telephone service are to be made effective by the Commission in the near future, and since the filing of the complaint the service of the People's Tel. Co. has become concededly satisfactory in most respects. *Held:* Decision as to the adequacy of the service of the People's Tel. Co. at Fall River is held in abeyance for the present. *In re Invest. People's Tel. Co. et al. at Fall River*, 793, 795.

Requirements as to service and facilities—Adequacy of service—Number of telephones per line.

47. Respondent contends that there would not be sufficient amount of business to warrant the building of a through line from Richland Center to Hub City and that the reconnection of the present loaded lines would materially impair the service of subscribers already on the line. *Held:* It is not deemed advisable at this time to require the installation of a through line from Richland Center to Hub City, or Hub City to Cazenovia. For the present it is believed that the loaded rural lines, with some changes, will handle the traffic in a fairly satisfactory manner. However, the lines of the Hawkins Creek Telephone Company appear to be considerably overloaded. It is ordered that the Hawkins Creek Telephone Company proceed to reduce the number of its subscribers per line to twelve or less. It is further ordered that the Hawkins Creek Telephone Company and the Badger Telephone Company provide sufficient compensation for the operator of the Pleasant Ridge switch to insure adequate service. *Hawkins Creek Tel. Co. et al. v. Badger Tel. Co.* 655, 664–665.

Requirements as to service and facilities—Extension of service.

48. As regards the furnishing of direct service to Columbus, it appears that formerly the Wis. Tel. Co. operated telephones within the village of Fall River connected directly with its Columbus exchange, but that since a physical connection was established between its Columbus exchange and the exchange of the People's Tel. Co. at Fall River, the Wis. Tel. Co. has withdrawn this local service entirely, that it now

maintains in the village one toll station connected directly with its Columbus exchange, that the proprietor of this station can connect with other residents of Fall River only through making use of both the Columbus and Fall River exchanges and the physical connection between the two, and that this cannot be regarded as local service. There is no question that it is physically possible for the People's Tel. Co. to render adequate service with its local exchange, and with a sufficient number of direct connecting lines between its Fall River exchange and the Columbus exchange of the Wis. Tel. Co., and that the extension requested would result in duplication of equipment, and unwarranted competition, both of which ch. 610, laws of 1913, aims to eliminate. As to extension of service requested of the Wis. Tel. Co., the Commission is without jurisdiction. The Wis. Tel. Co. is not obligated to furnish service of a local character in the village. On the contrary, it could only make the extensions in question after filing notice with, and securing the approval of the Commission under ch. 610, laws of 1913, and it would be contrary to the established policy of the legislature for the Commission to permit or require the extension of the Wis. Tel. Co's lines into Fall River for local service, even though such requirement were legally possible. *In re Invest. People's Tel. Co. et al. at Fall River*, 793, 795.

RATES.

See RATES–TELEPHONE.

VALUATION.

See VALUATION.

TERMINAL CHARGES.

See also DEMURRAGE CHARGES.

Switching rates.

1. Though the terminal rates ordered in the instant case should eventually be increased beyond the increase granted by the present order, this cannot be done until certain line haul rates which are now under consideration are finally adjusted. The fact that the rates at present in effect have resulted in the establishment of economic and traffic conditions which it is a serious matter to radically disturb must also be taken into account. *Held:* Considering both the necessary return to the railway company and the competitive status of many of the industries in the district, an industrial switching rate of 1 ct. per 100 lb., with minimum weights of 50,000 lb. and 60,000 lb. per car, is as high a rate as can reasonably be put into effect at this time. *In re C. M. & St. P. Switching Rates in Milwaukee*, 261, 271, 286.

TERMINAL EXPENSES.

As element considered in making railway rates, *see* RATES–RAILWAY, 6.

TERMINAL FACILITIES.

See STATION FACILITIES; SWITCH CONNECTIONS.

THROUGH LINES.

See CONNECTING CARRIERS.

THROUGH RATES.

Joint or through rates, *see* RATES–RAILWAY, 4.

THROUGH SERVICE.

Provision for through service, *see* STREET RAILWAYS, 10.

TIES.

See TIES AND RAILS.

TIES AND RAILS.

Refund on shipments, between Draper and Kaiser, *see* RATES–RAILWAY, 45; REPARATION, 13.

TOLL RATES.

See RATES–TELEPHONE.

TRACK CONNECTIONS.

See SWITCH CONNECTIONS.

TRACK FACILITIES.

Refund from excess demurrage charge based on unreasonable delay in providing certain track facilities, *see* REPARATION, 34.

Extension of double track facilities in order to maintain a schedule, *see* STREET RAILWAYS, 7.

TRACKAGE RATE.

See RATES–RAILWAY.

TRAFFIC CONDITIONS.

As a factor in determining terms for physical connection, *see* TELEPHONE UTILITIES, 39.

TRAIN SCHEDULES.

See TRAIN SERVICE.

TRAIN SERVICE.

Adequacy of train service.

1. This is a rehearing, upon application of the respondent, of a matter decided Aug. 22, 1913, 12 W. R. C. R. 506. The respondent objects to the order of the Commission requiring it to stop its trains No. 5 and No. 6 at Readfield on signal to receive and discharge passengers. The trains in question are interstate trains and though they stop at certain stations no larger than Readfield they do so only because of the respondent's reluctance to discontinue service to which the respondent's patrons have become accustomed from long usage. New data with reference to the passenger traffic at Readfield are considered. If a railway company furnishes reasonably adequate service to a community it cannot be required to furnish additional service to that community merely because it furnishes more than adequate service to communities of similar or less importance. *Held:* In the light of the new evidence introduced, the failure of the respondent to stop its trains No. 5 and No. 6 at Readfield would not constitute an unjust discrimination against Readfield nor result in service which would be legally inadequate. The former decision is reversed and the original complaint is dismissed. *Anderton et al. v. M. St. P. & S. S. M. R. Co.* 247, 250.

2. The petitioner in effect alleges that the passenger service rendered by the respondent at Eidsvold, Clark county, is inadequate and asks that the respondent be required to stop trains No. 5 and No. 6 at that point on flag and on request of passengers. The trains in question are local interstate trains running between Chicago and Eau Claire. The eastbound train, No. 6, stops regularly at Eidsvold on Tuesdays and

Fridays to receive shipments of cream for Marshfield and on flag on other days when there is cream to be shipped. Passengers are apparently permitted to board or alight from the train at these stops but the petitioner alleges that the stops are not long enough to afford elderly people an opportunity to make use of the train. The westbound train, No. 5, makes no regular stops at Eidsvold. The respondent states that it sells passenger tickets having Eidsvold as the destination only to such passengers as are willing to travel on the way freights which stop at Eidsvold. Passengers desiring to reach Eidsvold by passenger trains are compelled to purchase tickets either to Thorpe or Stanley, stations 3.4 miles east and 3.4 miles west, respectively, of Eidsvold. A curve in the track and the grade at Eidsvold appear to present operating difficulties which would interfere with the stopping of the westbound train, No. 5, at Eidsvold. *Held:* The service complained of appears to be inadequate. An order requiring the respondent to stop train No. 5 on flag in the face of the operating difficulties involved or a permanent order requiring the respondent to stop train No. 6 on flag, however, would not be justified at the present time. The respondent is ordered: (1) to take such measures as shall be necessary to furnish adequate service to and from Eidsvold on train No. 6 on such days as the respondent may find it necessary to regularly stop this train for cream shipments from Eidsvold and to charge for this service only the lawful rate of fare to and from Eidsvold; (2) for a period of three months to stop train No. 6 on other week days on signal or request to the conductor for the purpose of taking on or letting off passengers; and (3) to keep a complete and accurate record of the passenger business transacted at Eidsvold during the said period, at the expiration of which the Commission will make such further order as the facts may warrant. *Boardman v. M. St. P. & S. S. M. R. Co.* 462, 472–473.

3. The petitioners allege that the passenger service rendered by the respondent at Victory, Vernon county, is inadequate and asks that the respondent be required to stop train No. 51, northbound, and train No. 58, southbound, at Victory for the purpose of receiving and discharging passengers. The trains named are interstate trains. Victory now receives passenger service from one passenger train and one freight train each way daily. *Held:* The present service is adequate. The petition is dismissed. *Adams et al. v. C. B. & Q. R. Co.* 506, 507.

4. The petitioners allege that the train service rendered by the respondent at Pittsville is inadequate. The complaint was temporarily satisfied by the operation of additional trains which were later discontinued, after which the petitioners again complained to the Commission. The present passenger service consists of one mixed train operated each way daily between Babcock and Pittsville and scheduled to leave Babcock at 6:10 a. m., arrive at Pittsville at 6:45 a. m., leave Pittsville at 11:50 a. m. and arrive at Babcock at 12:30 p. m. The evidence shows that the northbound train is frequently late. The petitioners ask that a passenger or mixed train be run to Pittsville and back from Babcock, connecting with train No. 5 on the main line, which is scheduled to arrive at Babcock at 5:33 p. m. The passenger business on a branch line cannot always be expected to be entirely self-supporting. Where this business is conducted in connection with a profitable freight business on the same trains, the combined earnings must be considered in determining the adequacy of the service. In the instant case the passenger service can be improved in a manner which will also add to the convenience of the freight service, without placing an unreasonable burden upon the railway company. *Held:* The service complained of is inadequate. The respondent is ordered to operate a train for the accommodation of passengers and freight from Babcock to Pittsville and return, daily except Sunday, leaving Babcock after a connection with train No. 5 on the main line now scheduled to arrive

at that station at 5:33 p. m. *Werner et al. v. C. M. & St. P. R. Co.* 573, 576.

5. This is a rehearing in a matter decided Feb. 10, 1914, 13 W. R. C. R. 732. The respondent contends that the order issued requiring the respondent to stop its train No. 24 at Caledonia on signal to receive and discharge passengers, or, at its option, to so readjust its service that residents of Caledonia will be enabled to reach Racine and return the same day, having a reasonable amount of time at that city during business hours for the transaction of business, is unreasonable and beyond the authority of the Commission to issue. The train in question is an interstate train and the respondent alleges that it is necessary for the train to make close connections at Chicago. About 1,800 persons are tributary to the respondent's train service at Caledonia. Three northbound and two southbound trains are now stopped at Caledonia, but their schedule is such that it is impossible for residents of the locality to make the trip to Racine and return the same day, having a reasonable time for the transaction of business. The standard of adequate passenger train service prescribed by sec. 1801 of the statutes for stations having two hundred or more inhabitants is a minimum, not a maximum, standard and if the quantity of service required thereby does not fully meet the requirements of adequacy the Commission has the power to order a rearrangement of schedule or the operation of additional trains. *Chicago, B. & Q. R. Co. v. Railroad Comm.* 1913, 152 Wis. 654; *Chicago, M. & St. P. R. Co. v. Railroad Comm.* 1914, 146 N. W. 1129. The adequacy of passenger train service cannot be determined from the point of view of quantity alone but consideration must also be given to the schedule upon which the trains stopped are operated. *Held:* The former order is reasonable and within the scope of the Commission's jurisdiction. It will therefore stand as of this date. *James Callen, Jr. et al. v. C. M. & St. P. R. Co.* 581, 585.

6. Complaint was made that the passenger service furnished by respondent at Abrams, Oconto county, Wis., is inadequate and discriminatory, in that northbound passenger train No. 3 does not stop at Abrams for passengers, and that southbound train No. 2 stops only for Milwaukee and Chicago passengers, whereas both trains are stopped elsewhere at points of no greater importance than Abrams. It appears that subsequent to the filing of the petition respondent began stopping trains No. 2 and No. 3 at Abrams. *Held:* No order need be made at present with respect to train service, as the service now in effect is adequate and will, if maintained, satisfy this feature of the petitioner's complaint. *Abrams Business Men's Ass'n v. C. M. & St. P. R. Co.* 780, 782.

7. Complaint was made of inadequate passenger train service between Spring Valley and Woodville, Wis. It seems that two mixed trains, formerly affording passenger service between Spring Valley and Woodville, were taken off for a time and subsequently continued as freight trains carrying no passengers. The Commission is requested to order the respondent to restore the passenger service formerly afforded by these trains. It appeared that the discontinuance of the service in question necessitated a four hour wait at Woodville for Spring Valley people desiring to make a round trip to Eau Claire on the same day, resulted in the loss of the afternoon for business men desiring to transact business the following morning in St. Paul, and allowed persons coming to the village for business and departing the same day only four and one-half hours, including the noon hour. instead of eight hours in the village as formerly. *Held:* While the addition of other passenger trains would not be justified, it is manifestly unreasonable, where the use of existing facilities will materially improve the service without any increase in operating expenses, to refuse to accord such service to the public. The respondent is ordered to restore the passenger serv-

ice formerly rendered by it between Spring Valley and Woodville by allowing passengers to ride on its freight trains No. 34 and No. 35. *Sieberns et al. v. C. St. P. M. & O. R. Co.* 775, 779.

Adequacy of train service—Branch line service.

8. In answer to the petitioner's allegation that passenger and freight service at Pittsville is inadequate, the respondent in the instant case claims that the latter is adequate and that the additional passenger business which could be secured by the operation of another train would be insufficient to justify the operation. *Held:* The passenger business on a branch line cannot always be expected to be entirely self-supporting. Where this business is conducted in connection with a profitable freight business on the same trains, the combined earnings must be considered in determining the adequacy of the service. In the instant case the passenger service can be improved in a manner which will also add to the convenience of the freight service without placing an unreasonable burden upon the railway company. *Werner et al. v. C. M. & St. P. R. Co.* 573, 576.

Adequacy of train service—Comparative conditions.

9. If a railway company furnished reasonably adequate service to a community it cannot be required to furnish additional service to that community merely because it furnishes more than adequate service to communities of similar or less importance. *Anderton et al. v. M. St. P. & S. S. M. R. Co.* 247, 250.

Power of Commission to compel stoppage of interstate trains.

See RAILROAD COMMISSION, 10–11.
See also post, 10.

Stopping of interstate trains—When an interference with interstate commerce.

10. It would seem clearly within the decisions of the supreme court of the United States a burden upon interstate commerce and therefore beyond the jurisdiction of the Commission to compel interstate trains to stop at stations where the local service is already reasonably adequate and where the size of such stations does not warrant the stopping of such trains. *Adams et al. v. C. B. & Q. R. Co.* 506, 507.

Stopping of trains.

See ante, 2.

Test of adequacy of passenger train service.

11. The adequacy of passenger train service cannot be determined from the point of view of quantity alone. It is essential that a proper number of trains be stopped at a station, but it is more important that the schedule be such as to render travel reasonably convenient. An excess of trains, operated at inconvenient hours, may result in a service which is entirely inadequate as to quality. *James Callen, Jr., et al. v. C. M. & St. P. R. Co.* 581, 584.

TRAINLOAD RATES.

See RATES—RAILWAY.

TRAINS.

Limitation of speed of trains, for protection of railroad crossings, *see* RAILROADS, 13.
Stopping of trains, for protection of railroad crossing, *see* RAILROADS, 13.

Stopping of trains at stations of equal or less importance than a station at which they do not stop not unjust discrimination, *see* DISCRIMINATION, 7.
Stopping of interstate trains, when an interference with interstate commerce, *see* TRAIN SERVICE, 10.

TRANSIT PRIVILEGES.

IN GENERAL.

Original shipment separated into two or more shipments.

1. Where a shipment of grain is entitled to transit privileges and where the shipment is separated at the transit point into two or more shipments, each destined to points taking different rates from point of origin to point of final destination, the application of different rates to the shipment involved is not authorized in the present tariffs. *Blodgett Milling Co. v. C. & N. W. R. Co.* 771, 774.

TRANSIT RATES.

See RATES–RAILWAY.

UNDUE PREFERENCE.

See DISCRIMINATION.

UNIFORM ACCOUNTING.

See ACCOUNTING.

UNIFORM ACCOUNTS.

See ACCOUNTING.

UNIT COSTS.

Determination of unit costs for electric utilities, *see* ACCOUNTING, 1–9.
for telephone utilities, *see* ACCOUNTING, 10–13.
for water utilities, *see* ACCOUNTING, 8–9, 14–26.

UNIT OF MEASUREMENT.

WATER UTILITY.

Unit of measurement changed from gallons to cubic feet, *see* RATES–WATER, 31.

UNJUST DISCRIMINATION.

See DISCRIMINATION.

UNJUST RATES.

See RATES.

UNREASONABLE RATES.

See RATES.

UTILITIES.

See ELECTRIC UTILITIES; GAS UTILITIES; TELEPHONE UTILITIES; WATER UTILITIES.

VALUATION.

DETERMINATION OF THE VALUE OF PROPERTY OF PUBLIC UTILITIES—ELEMENTS CONSIDERED.

Book value—As disclosed by the construction accounts and balance sheets.

1. If the books of a utility have been accurately kept and if correct methods of accounting have been followed, the books should show the total amount expended for construction and also the extent of the depreciation of the property. The book value should not ordinarily vary to any great extent from the cost of reproduction. In the instant case, however, this comparison cannot be made because of the lack of original records. *Kittleson et al. v. Elroy Mun. W. & Lt. Plant*, 485, 489.

In general.

2. Careful attention must be given in all cases to valuation and cost because of the fact that the actual value of a plant and the cost of service bear a close and direct relation to the reasonable charges which should be paid for the service furnished by the utility. In the instant case certain additions should undoubtedly be made to the estimated cost new of the plant, for such extensions of mains or enlargements and reinforcements of the system as it appears must be added in the near future. *Dennett et al. v. City of Sheboygan*, 634, 638.

Going value—Net cost of building up the business.

3. That a public utility, may, and usually does, have some value beyond that of the bare cost of its physical property or plant is now so generally recognized as to need no further general demonstration here. Previous decisions of this Commission have clearly shown that there is an additional element, commonly termed "going value", to be considered, and have also indicated the manner in which it is probably best determined. *In re Invest. Ashland Water Co.* 1, 47.

4. The fact that the property in this case has been in the hands of the present owners but a little more than two years appears to leave them in no position to show the complete financial records of its operation. It is therefore impossible to accurately ascertain the cost of building up the business, or what is usually termed going value. That the plant has an intangible element of value as a going concern, and an earning value through a developed business, is deemed sufficiently obvious in the light of the facts peculiar to this case and in the light of what has been said on this subject in previous decisions. *Town of Vaughn v. Hurley W. Co.* 291, 299.

5. No evidence was submitted at the hearing on the question of going value nor have the earliest records of the plant been available. Income accounts as submitted since 1907 under the Public Utilities Law, however, show an accumulated deficit. That this may be in part attributed to the cost of developing the business appears reasonable. *In re Service and Rates Stevens Point Ltg. Co.* 350, 365.

Physical property—Cost of reproduction new—Allowance for item of cost not actually incurred—Paving.

6. In reference to the paving placed over the company's pipe lines after they were laid it may be said that the Commission has already held in several previous cases (*City of Milwaukee v. T. M. E. R. & L. Co.* 1912, 10 W. R. C. R. 1, 116, and cases cited) that this element of cost of reproduction of its property has no place in the amount upon which the utility is entitled to earn. The matter has been fully dis-

cussed in preceding decisions. The same rule will apply here. *In re Invest. Ashland Water Co.* 1, 38.

Physical property—Cost of reproduction new—Cost of securing capital.

7. The cost of capital and of the enterpriser are fixed by economic forces or laws in the open market. These laws cannot be controlled either by the state, the city or this Commission. Public utilities, like everybody else, must pay the market prices for what they need. Exceptions to this are only temporary in their nature. This Commission has been made aware of this in more ways than one. *In re Invest. Ashland Water Co.* 721, 739–740.

Physical property—Cost of reproduction new—Discounts on bonds.

8. The company has pointed out that one of the elements of its actual cost or items of expense was bond discount. In previous cases the Commission has said that although the item of discount on bonds is important to consider in determining the value of any utility property, it does not follow that all of the actual expense which this item represents is to be included in the valuation upon which rates are determined. The obvious results of any such rule would be to encourage the showing of larger and larger discounts of utility securities. *In re Invest. Ashland Water Co.* 1, 51.

9. Public utilities, including both municipally and privately operated, are usually built largely on borrowed capital represented by bonds. The same is true in this case and the bonds of the company bear 6 per cent interest. They were also necessarily sold at a discount. Had the city, instead of the company, built the plant, its ability to offer greater security might have enabled the city to obtain the required capital at a somewhat lower rate than private interests are required to pay. This ability to offer greater security lies in the city's power to tax all privately owned property within its borders. In issuing municipal water works bonds a city not only establishes for such bonds a first lien upon all privately owned property in that city, including public utilities, but it pledges its taxing power in so doing. Without establishing this first lien on all other property and without pledging its taxing power, and with only the plant itself pledged as security, it is very doubtful that the city could obtain money on terms even as favorable as those given to the private company. The city can hardly, with sound reason, claim that the water company in this case will be receiving equitable treatment if it be allowed a smaller rate of interest than the city has had to pay on its own bonds, particularly when it is remembered that the company's bonds bear interest at 6 per cent and that even at this rate they had to be sold at a discount, this being in some cases as much as 10 per cent. *In re Invest. Ashland Water Co.* 721, 725.

Physical property—Cost of reproduction new—Depreciation fund—Allowance for.

10. The effect of including in the cost new the large recent investments in property against which practically no depreciation can yet be considered to have accrued, will obviously be to increase the ratio between present value and cost new. Theoretically, at least, the difference between these values should be in the assets offsetting the depreciation reserve, in order to preserve the property and the investments represented by it. The best modern practice makes at least some provision in advance by building up a depreciation reserve year by year to meet the requirements for renewals and replacements which are very sure to become necessary sooner or later through one cause or another. *In re Invest. Ashland Water Co.* 1, 44, 45.

11. It is claimed by the respondent that examination of the Commission's two valuations and the account of construction since 1909 reveals that a shrinkage in value of the property apparently took place. In other words, about $4,900 of new construction can not be accounted for by a corresponding increase in the cost to reproduce the property new. It is not unreasonable to suppose that this circumstance was caused partly by renewal or changes in the system which did not add to the cost of reproduction and partly by shrinkage in unit prices. Taking into consideration the total amount of renewals, the total theoretical depreciation accrued and the increase, according to the two valuations, in unrenewed depreciation there is yet about $2,500 of renewals not reflected by an increased present value. It is for this alleged shrinkage during three years that the respondent asked to be allowed an additional amount for depreciation. However, let us see what may actually occur when large expenditures are made for renewals. The equipment, whose replacement is imminent, is valued by physical appraisal methods and goes into the inventory at its minimum service value. Its value, insofar as the physical appraisal is concerned, remains at a point above the residual or scrap value until renewal transpires. Hence, the present value of the property as a whole is apparently higher than it would be were such equipment considered valueless. It is clear, then, that in such cases the utility has the benefit of a high present value before the replacement is made instead of suffering a shrinkage afterward. *Hood et al. v. Monroe El. Co.* 227, 233, 234.

12. The failure of a utility to make allowance for depreciation if the earnings have been sufficient is tantamount to a withdrawal of capital from the business and the cost of reproduction new must be diminished in determining the fair value upon which the reasonable return allowed is to be based when an adequate reserve for depreciation has not been provided. The utility is, however, entitled to earn an amount sufficient to offset future depreciation. In the instant case 4 per cent on the cost new is allowed as an operating expense to cover depreciation. *In re Service and Rates Stevens Point Ltg. Co.* 350, 364.

Physical property—Cost of reproduction new—Interest during construction, engineering, contingencies, etc.

13. Whether or not the city admits the justice of allowing as much as was conceded by its own expert to be fair there appears no reason to believe that 15 per cent is more than a proper addition for that element of cost in the case of a plant such as is here under consideration. This is not a greater allowance, proportionately, than has been made by this Commission in certain other cases of utility valuations. *In re Invest. Ashland Water Co.* 721, 733.

Physical property—Cost of reproduction new—Overhead expenses.

14. The Commission's tentative valuation included an allowance of 12 per cent for general overhead expenses, but this allowance is too low and is therefore increased to 15 per cent in the final valuation. *In re Invest. Ashland Water Co.* 1, 40.

Physical property—Cost of production new—Service connections.

15. The service pipes from main to curb cock appear to have been laid at the expense of the company in all but about 800 cases wherein the consumers paid for the pipe and labor and the company, as usual, furnished the lead and brass goods and curd box and tapped the main. The company's practice and rule has been to make a tapping and connecting charge of $3.25 per service. The aggregate amount of such

charges was not deducted from the plant value as possibly it should have been. The usual method of treating such receipts has been to class them among the miscellaneous non-operating revenues. Allowance has been made for them in that way. If taken out of the plant value these receipts must also be eliminated from non-operating revenues. *In re Invest. Ashland Water Co.* 721, 731.

Physical property—Cost of reproduction new—Street lighting.

16. The Commission has divided the physical value between street lighting and other service, using the most reliable data available. Those items of the inventory, which are used only for street lighting, are, of course, charged entirely to that service. Other items of station equipment, which are used for street lighting and other service jointly, are apportioned in accordance with the division of the station demands. The distribution system pole line equipment is divided in proportion to the length of wire. General and miscellaneous equipment, which the petitioner's witness divided according to the ratio of kilowatts demanded, we have apportioned on an overhead basis, that is, in accord with the ratio established for other equipment as a whole after division had been made of the individual items. As a large part of material and supplies is used only for commercial purposes, this fact has been taken into account in dividing this item between street lighting and other service. *City of Watertown v. Watertown G. & El. Co.* 604, 608–609.

Physical property—Cost of reproduction new—Working capital.

17. Where the current is purchased, large generating expenses such as coal and labor are eliminated, reducing the amount of capital which it is necessary to have available. This is also true of power plant supplies. *In re Service and Rates Stevens Point Ltg. Co.* 350, 364.

18. Apparently no consideration is given to the fact that the company has more than current operating expenses to be prepared to meet. It must be prepared at all times to make the extensions and improvements demanded as well as to take care of the unusual emergencies which may arise. In the event of a shortage of funds of its own available for such expenses, the company would be obliged to borrow and pay interest, provision for which was not made in the new schedule of rates. *In re Invest. Ashland Water Co.* 721, 734.

DETERMINATION OF THE VALUE OF PROPERTY OF PUBLIC UTILITIES—METHODS OF APPRAISAL.

Determination of the value of physical property of the plant—Unit prices.

19. The valuation made by the staff are customarily made on the basis of normal prices of materials and labor. Normal prices of at least some construction materials are guaged by a five-year average. *In re Invest. Ashland Water Co.* 721, 729.

Determination of the total value of the plant and its business from the accounts and records.

20. A method of valuation which has long received the favorable consideration of the courts as one of the reasonable methods to be applied when possible, is not to be condemned simply because in certain cases it may have been misapplied and extravagant results obtained through its misapplication. The theory of measuring value by actual investment does not contemplate the substitution of estimates of cost of reproduction in place of the original and actual costs. The reductions which in the instant case have been made in the cost of pipe laying, services, and filters, and consequently in the valuation of the physical

property, are mostly due to the fact that for the purposes of this case it was thought best to use the cost for these items as shown on the records of the company rather than the cost as computed from the market prices of the elements which enter into these costs. Should it be disclosed that these book costs were not correctly stated on the records of the company, then it may of course be necessary to make the proper corrections later on. *In re Invest. Ashland Water Co.* 721, 726, 727, 740.

DETERMINATION OF THE VALUE OF PROPERTY OF PUBLIC UTILITIES—VALUATION IN PARTICULAR CASES.

Electric utilities—Browntown Mut. Lt. Plant, Browntown.

21. A valuation of the physical property as of March 26, 1914, shows a cost new of $4,530 and a present value of $3,983. *In re Appl. Browntown Mun. Lt. Plant*, 560, 562.

Electric utilities—Elroy Mun. W. & Lt. Plant, Elroy.

22. A valuation of the physical property as of January 1, 1914, shows a cost of reproduction new of $27,257 and a present value of $16,294. *Kittleson et al. v. Elroy Mun. W. & Lt. Plant*, 485, 489.

Electric utilities—Monroe El. Co., Monroe.

23. The Commission's valuation as of November 11, 1909, shows that the cost of reproduction of the physical property was about $64,000, and the present value about $56,000. A second valuation as of January 1, 1913, shows a cost of reproduction new of $73,088 and a present value of $58,101. *Hood et al. v. Monroe El. Co.* 227, 229.

Electric utilities—Stevens Point Ltg. Co., Stevens Point.

24. A valuation of the physical property as of March 30, 1913, shows a cost new of $59,294 and a present value of $39,565. *In re Service and Rates Stevens Point Ltg. Co.* 350, 357.

Electric utilities—Watertown G. & El. Co., Watertown.

25. A valuation of the physical property as of January 1, 1913, shows a cost of reproduction new of $204,227 and a present value of $178,220. *City of Watertown v. Watertown G. & El. Co.* 604, 608.

Gas utilities—Stevens Point Ltg. Co., Stevens Point.

26. A valuation of the physical property as of March 30, 1913, shows a cost new of $80,128 and a present value of $68,695. *In re Service and Rates Stevens Point Ltg. Co.* 350, 357.

Telephone utilities—Badger State Tel. & Teleg. Co., Neillsville and Granton.

27. A valuation of the physical property as of January 1, 1914, shows a cost of reproduction new of $51,504 and a present value of $33,391. *In re Appl. Badger State Tel. & Teleg. Co.* 407, 412–415.

Water utilities—Ashland Water Co., Ashland.

28. A valuation of the physical property as of June 30, 1912, shows a cost new of 410,763 and a present value of $375,101. *In re Invest. Ashland Water Co.* 1, 28.

Water utilities—Elroy Mun. W. & Lt. Plant, Elroy.

29. A valuation of the physical property as of January 1, 1914, shows a cost of reproduction new of $37,562 and a present value of $32,215. *Kittleson et al. v. Elroy Mun. W. & Lt. Plant*, 485, 489.

Water utilities—Hurley Water Co., Hurley.

30. A valuation as of Oct. 1913, of the physical property properly devoted to Hurley service shows a cost of reproduction new of $38,838 and a present value of $33,425. *Town of Vaughn v. Hurley W. Co.* 291, 295.

Water utilities—Sheboygan City Water System, Sheboygan.

31. No valuation of the physical property of the Sheboygan City Water Works has been made for the purposes of the instant case. The Commission, however, *In re City Water Co. of Sheboygan*, 1909, 3 W. R. C. R. 371–377, held that the just compensation to be paid to the City Water Company of Sheboygan for the taking of the property of the company by the city was $415,000. Additional construction since the date of the valuation brings the total cost up to about $507,739 as of June 30, 1913. *Dennett et al. v. City of Sheboygan*, 634, 637.

Water utilities—Watertown Water Works, Watertown.

32. A valuation of the physical property as of June 30, 1912, shows a cost of reproduction new of $213,180 and a present value of $202,677. *Hughes et al. v. Watertown Water Works*, 669, 671.

VISUAL SIGNAL.

Installation of visual signal for night indication, *see* RAILROADS, 13, 16, 18, 24, 27.

WAGES AND SALARIES.

As element considered in making rates for electric utilities, *see* RATES–ELECTRIC, 10.

WAITING STATIONS.

See STATION FACILITIES.

WAREHOUSE SITES.

Site for warehouse on railroad's right of way within yard limits of station or terminal.

1. The petitioner, who is engaged in buying and selling coal and other merchandise at Mukwonago, alleges that the respondent refuses to lease him a suitable site for a warehouse on its right of way at Mukwonago and asks that the Commission take such action as it deems just in the premises. If granted the desired site, the petitioner proposes to ship merchandise of various kinds into Mukwonago, store it temporarily and sell it to farmers and other customers. *Held:* There is no evidence to show that the proposed warehouse would be used in any other way than as a private warehouse in connection with a private mercantile business. The Commission is therefore without jurisdiction in the matter and the petition is dismissed. *Rust v. M. St. P. & S. S. M. R. Co.* 251, 252.

WAREHOUSES.

CONTROL AND REGULATION IN GENERAL.

Jurisdiction of Commission over private warehouse sites on railroad property.

See WAREHOUSE SITES, 1.

WATER POWER LAW.

SECTIONS CONSTRUED.

Sec. 1596, "unlawful obstructions", law does not define what constitutes unlawful obstructions, *see* RAILROAD COMMISSION, 12.

WATER POWERS.

See also NAVIGABLE WATERS.

Jurisdiction of Commission over obstruction in navigable streams, *see* RAILROAD COMMISSION, 12.

WATER RATES.

See RATES—WATER.

WATER UTILITIES.

Cost of service of water utilities, determination of unit costs, *see* ACCOUNTING, 14–26.

Depreciation, rate of depreciation of water plant, *see* DEPRECIATION, 7–9.

Discrimination as between customers of water utility, *see* DISCRIMINATION, 4–6.

ACCOUNTING.

See ACCOUNTING.

ESTABLISHMENT, CONSTRUCTION AND MAINTENANCE.

Extension of water mains.

1. The petitioners allege that the city of Lake Mills refuses to extend its water mains along Scott and Franklin sts. in Lake Mills and pray for an order requiring the city to lay mains along these streets. The refusal of the common council to order the extensions desired appears to be in deference to the wishes of a majority of the owners of property abutting on the proposed extensions. Under an ordinance adopted by the city in accordance with suggestions made by the Commission in *Weber et al. v. City of Lake Mills*, 1913, 12 W. R. C. R. 577, the abutting property owners would be compelled to bear the greater portion of the cost of the extensions through special assessments levied against the abutting property. The extensions were recommended by the Commission in the decision cited. *Held:* The extensions desired by the petitioners are required to protect the public health and to improve the fire protection system. The city is ordered to make the extensions, as specified, within 90 days. *Atwood et al. v. City of Lake Mills*, 210, 214.

OPERATION.

Management—Financial transactions.

2. In regard to the handling of moneys of the water department, attention is called to sec. 925—95*b* to 925—95*c* of the statutes, which specifically provide for the administration of water works accounts. Compliance with the provisions as outlined in the law referred to will, it is believed, relieve the present confusion regarding the handling of finances. *Dennett et al. v. City of Sheboygan*, 634, 650.

Requirements as to service and facilities—Adequacy of service.

3. The peculiar circumstances of the case seeming to require it, the Commission had a special investigation and report made by an expert in matters of municipal water supply. The report so made holds: (1) that the city of Ashland is in constant danger from the present source of its water supply; (2) that it is impracticable to secure a supply of

pure water by artificial treatment from the present source of supply and, further, that this source will undoubtedly be necessary in the future as a receptacle for industrial sewage from pulp and paper mills and the like; (3) that it is impracticable for the city of Ashland with its present resources to attempt to secure water from Lake Superior, which is the ideal and ultimate source of supply for any large community located at Ashland; and (4) that it would probably be possible to meet the present needs of the city by resorting to the use of wells to obtain ground water. The report therefore recommends that test wells be driven and that tests be made at certain specified locations near the city to ascertain the best source of ground water supply. The utility is not in such a financial position as to be able to meet the demand for improvement in the quality of water furnished the public by extending the intake to a point in the lake where satisfactory water could always be obtained or to change to a ground water supply. The only plan which it is possible for the utility to adopt under the circumstances is that of installing a suitable water analysis laboratory at the pumping station and employing a competent person to take charge of the laboratory and intelligently supervise the filtration and disinfection of the water supply. Even this plan is not certain of success but the additional expense involved by its use is not large enough to make it too costly to be worth a trial. The cost of applying more scientific treatment to the water purification problem should, however, be properly provided for in the determination of new rates for future service. It is ordered: (1) that the utility within sixty days make such arrangements as may be found necessary to give it the benefit of a suitable laboratory for water analyses in the city of Ashland and thereby keep itself continually informed as to the efficiency of its purification processes by analyses made at least once daily, complete records of such analyses to be permanently preserved. *In re Invest. Ashland Water Co.* 1, 2–27, 55, 73.

4. It appears evident from our investigation that unless sprinkling and other unnecessary uses of water during fires be forbidden, and actually be prevented, feeder mains must be correspondingly enlarged or the fire service will suffer. If the general use of water during fires be thus reduced to the practicable minimum, there seems to be no necessity of considering the effect of a general installation of meters. From the examinations made by the engineers of the Commission the conclusion is drawn that, so far as the increase in investment or capacities is concerned, the restriction of the general use of water during fires is of much greater importance than the question of reducing pumpage by a general installation of meters. Extensive sprinkling during certain times at present, it appears, even when there is no fire to diminish pressure, causes such decreased pressure on the mains in certain sections of the city that some consumers are unable to get water even for domestic purposes. If this condition continues it will undoubtedly be necessary to install reinforcing mains, larger pumping equipment and an additional or larger intake. While the city of Sheboygan may have an unlimited supply of water, the present apparatus for supplying the water to consumers is limited. Reduction in pumpage by the use of meters will not only reduce operating expenses, but will delay the growth of fixed charges. *Dennett et al. v. City of Sheboygan*, 634, 638.

Requirements as to service and facilities—Adequacy of service—Fire protection.

5. *Held:* 1. With respect to the complaint as to fire protection service, the evidence does not clearly show that the respondent was at fault in the cases of the fires which gave rise to the complaint, but, to avoid a repetition of the difficulties met, both the respondent and the community might well have their own independent pressure recording gages

connected by special service pipes to the Hurley mains. *Town of Vaughn v. Hurley W. Co.* 291, 310–311.

6. Since the water system has reached its economical capacity steps should be at once taken by the water department to carry out the recommendations regarding the installation of reinforcing mains, etc. in order to improve the fire protection service to all portions of the city at present inadequately protected. *Dennett et al. v. City of Sheboygan*, 634, 649.

Requirements as to service and facilities—Appliances for the measurement of product or service—Duty of utility to provide meters.

7. As regards the question of ownership, or rentals for meters, the objections urged are not valid under the circumstances in the present case. A provision in the Public Utilities Law states that meters must be owned by the utility unless an exemption is granted by the Railroad Commission. The law does not specifically state under what conditions such exemptions shall be granted, but it is to be presumed that the utility should not be required to furnish meters whenever, because of local conditions, this would cause an unreasonable burden to the utility. No such local conditions are found in the present case. *Alter et al. v. City of Manitowoc*, 690, 693, 694.

Requirements as to service and facilities—Appliances for the measurement of product or service—Duty of utility to repair meters.

8. While in the instant case the general installation of meters has not been required, this omission should not be taken to signify that the Commission approves the flat rate plan. The Commission recognizes, however, that under special conditions the advantages of installing meters are not sufficient to offset the additional cost. Statistics show that over 40 per cent of the meters installed are owned by consumers. It is our opinion that the water department should assume the expenses of keeping all meters in repair and should pay all consumers owning their meters a reasonable rental for the same. *Dennett et al. v. City of Sheboygan*, 634, 649.

Requirements as to service and facilities—Appliances for the measurement of product or service—Utility relieved from duty of providing meters.

9. It is a general rule that public utilities in Wisconsin shall own and maintain the meters through which their services are measured to consumers, yet it is sometimes expedient, if not necessary, to make exceptions to this rule. In the instant case, in view of the present great magnitude of the investment in the plant of the utility, it is deemed inexpedient to require the utility to alter its present rules concerning the furnishing of meters to residence or other small consumers. *In re Invest. Ashland Water Co.* 1, 42.

Requirements as to service and facilities—Cross connections between mains.

10. Cross connections at short intervals between parallel or radiating water mains are generally recognized as important, particularly from the standpoint of reliability of fire service. *Atwood et al. v. City of Lake Mills*, 210, 214.

Requirements as to service and facilities—Extension of service.

11. That the will of the majority of those directly affected should govern in a case of this kind and result in denying to some who feel the great need of a service so important as that of city water is not altogether acceptable. It is quite widely recognized that there is an element of serious danger to health in the use for drinking purposes of waters from shallow wells in thickly settled communities, such as most if not all of the private wells in the instant case are reported to be. Some waters that look good and taste good are dangerous to drink. The city council's act of orderering construction of all of the recommended extensions of water mains was strictly within its legal powers, even though opposed by a majority of the property owners along the designated lines. *Atwood et al. v. City of Lake Mills*, 210, 213, 214.

Requirements as to service and facilities—Quality of water.

12. There seems to be no room for doubt that the raw water of the bay, as obtained by the company through its intake pipe, varies widely in its degree of pollution, depending on the varying currents in the bay. It is an apparent fact also that the proper amount of a disinfecting agent to be used in a polluted water depends on the relative condition of that water at different times. The problem of dealing correctly with the purification of a water supply of varying quality and degree of pollution would seem to require the installation and use of facilities for scientifically determining the character of the water at any and all times. The company in this case has had no such facilities of its own. Before the results of analyses made elsewhere for the company can be obtained the character of the water may and probably does often change very materially, requiring a quite different treatment. It may be that the hypochlorite, even when applied in proper quantities, is not applied at the proper point in the flow of water from the filters to the pumps and may not have the necessary mixture and time of action to produce the best effect. These are matters for scientific determination. They are also matters in which the state board of health is concerned, since plans for new water supplies or improvements of existing supplies are required by law to be submitted to that board for its approval before their execution. *In re Invest. Ashland Water Co.* 1, 6.

13. Inasmuch as the installation of a purification plant has noticeably improved the quality of the water supplied for domestic use and inasmuch as there is no evidence that laboratory or other additional facilities are urgently needed, an order for the installation of such additional facilities is not advisable at this time. *Town of Vaughn v. Hurley W. Co.* 291, 312.

14. Whether the present apparent freedom from contamination of the water can be depended upon to continue indefinitely, cannot at present be determined. If it is liable to contamination, the purification of the supply should be immediately investigated. *Dennett et al. v. City of Sheboygan*, 634, 639.

Requirements as to service and facilities—Services.

15. Whether service pipes from the main to the curb line should be furnished by the utility or by the consumer was discussed in the order in question (10 W. R .C. R. 387.) The conclusion was reached that in the end it would make no substantial difference in the rates to be charged. No reason is seen under the circumstances of this case for changing the order in this respect except to provide that the charge for services to the curb shall be uniform. It is accordingly ordered that the charge for installing service pipes from main to curb shall be uniform for each size of service piping regardless of the distance from main to curb. *Alter et al. v. City of Manitowoc*, 690, 692.

Requirements as to service and facilities—Standard of a water supply.

16. A perfect water supply is worth all its costs. There is no financial standard by means of which to measure the limit of human effort that should be expended in attaining it. The safety and permanence and growth of the dependent civilization is too important to permit expression in ordinary units, or to be reduced to the basis of profit or interest on investment, or to be viewed in any common way as solely a commercial or industrial enterprise or utility. The example of Rome has been the guide to all the cities of modern cultured nations. Since that day the water supply of a city has been the most important and usually the most expensive of its public works. The abundance and purity of the water supply has determined the growth and permanence of the civic communities and has always been a determining factor in selecting from the group of cities struggling for commercial and industrial supremacy, the few that should finally be awarded leadership. *In re Invest. Ashland Water Co.* 1, 24, 25.

RATES.

See RATES—WATER.

VALUATION.

See VALUATION.

WEIGHTS.

MINIMUM CARLOAD WEIGHTS.

Carload minimum on logs, *see* RATES—RAILWAY, 32.

WOOD.

Rates, reasonableness of, and refund, Dean Spur to Arpin, *see* RATES—RAILWAY, 25; REPARATION, 8.

Refund on shipment, Arpin to Neenah, *see* REPARATION, 19.

WOOD BOLTS.

See BOLTS.

WORKING CAPITAL.

As element in the valuation of public utilities, *see* VALUATION, 17–18.